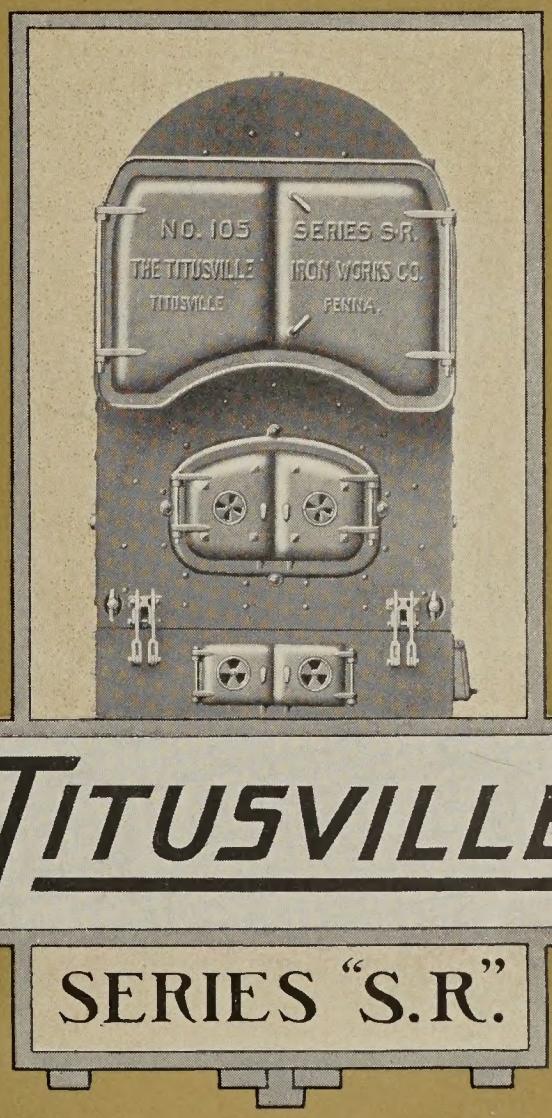
# WELDED STEEL BOILERS

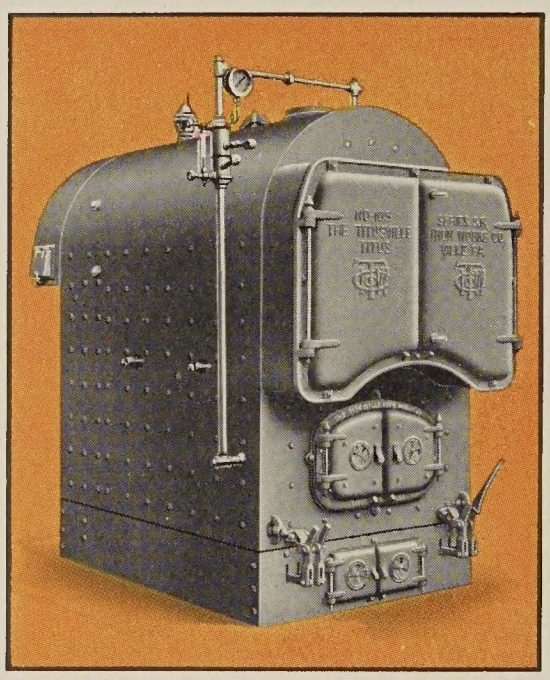



## TITUSVILLE

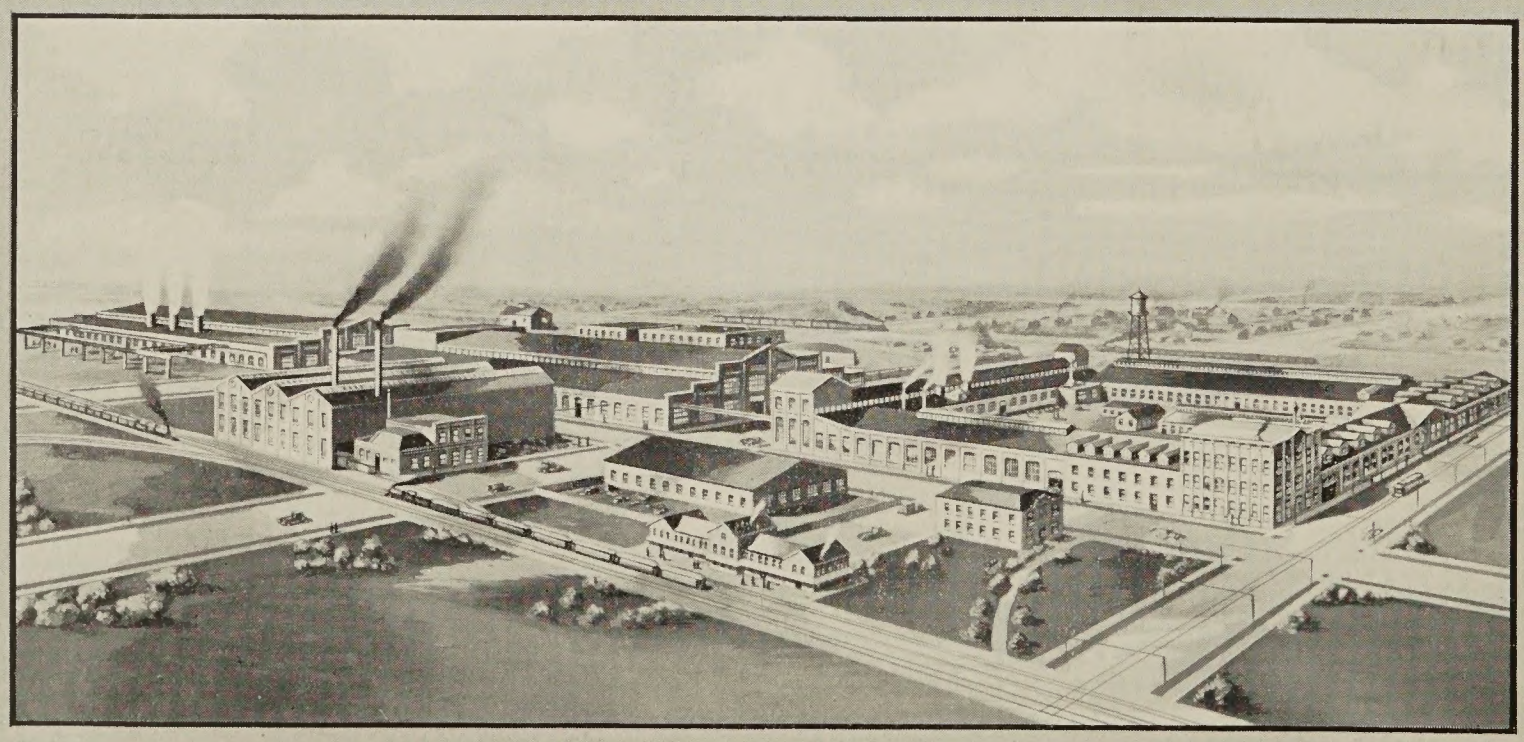
SERIES "S.R."

THE TITUSVILLE IRON WORKS COMPANY

TITUSVILLE, PENN'A



TITUSVILLE ALL-PURPOSE BOILERS



MAIN OFFICE AND WORKS, TITUSVILLE, PENN'A

# TITUSVILLE WELDED STEEL BOILERS

## SERIES "S. R."

for

## ANTHRACITE, BITUMINOUS and OIL BURNING

BUILT IN STRICT ACCORDANCE
WITH THE A. S. M. E. CODE AND
INSURANCE INSPECTION
REQUIREMENTS

CATALOG 96


**THE TITUSVILLE IRON WORKS COMPANY**

DIVISION OF STRUTHERS-WELLS-TITUSVILLE CORPORATION

*Main Office and Works*

TITUSVILLE, PENNA.

*Sales Offices*

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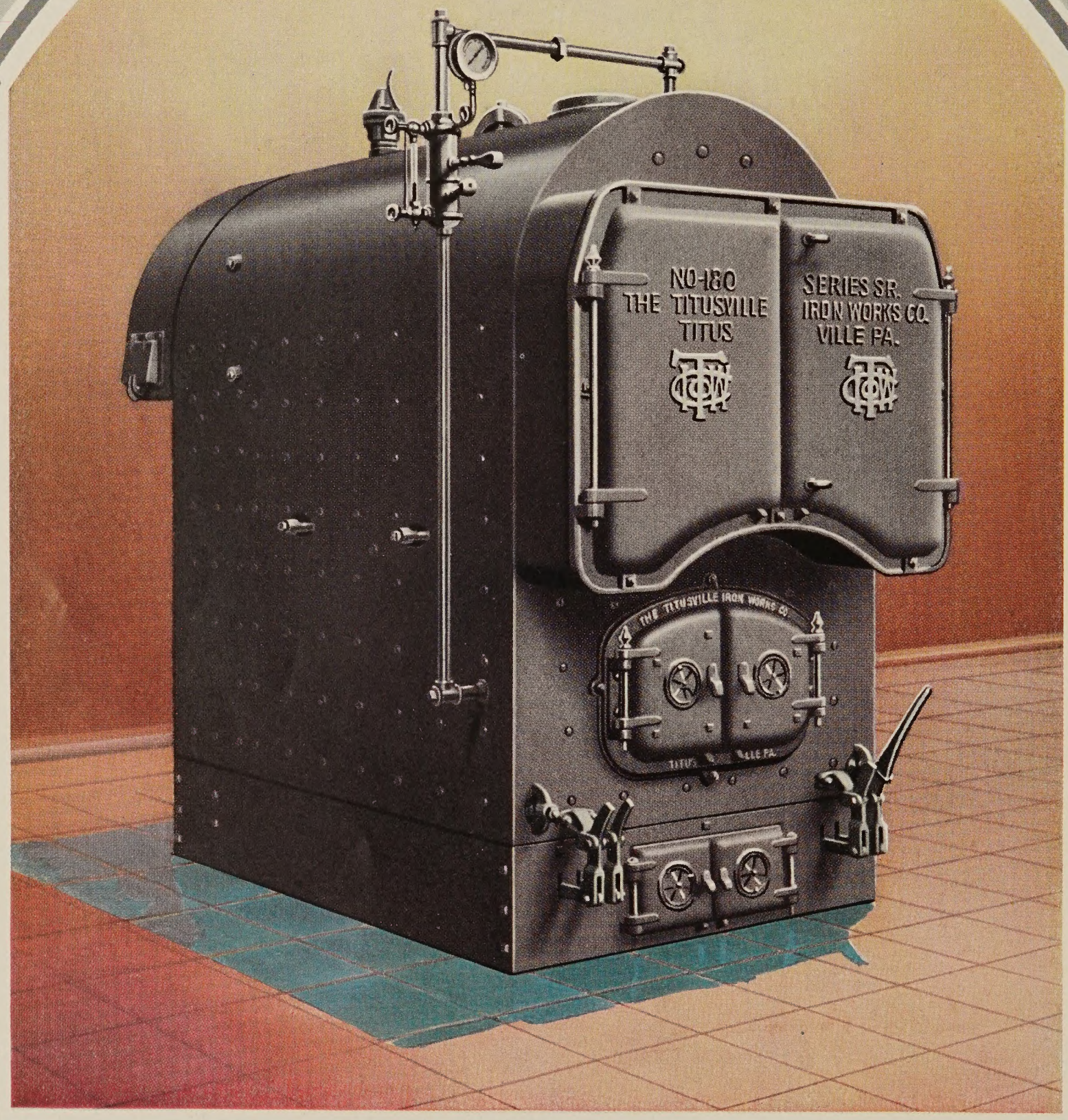



Fig. 6071

## SERIES "S. R."

TITUSVILLE SERIES "S.R." COMPACT TYPE WELDED PORTABLE FIRE-BOX BOILER WITH REAR SMOKE OUTLET FOR LOW PRESSURE HEATING. THESE BOILERS ARE BUILT FOR ANTHRACITE OR BITUMINOUS COAL AND OIL BURNING

# TITUSVILLE COMPACT BOILERS

## DOUBLE ELECTRIC WELDED

## SERIES "S. R."

DIVIDENDS are paid by industry through careful consideration of costs. The owner of a Titusville Series "S.R." Compact Boiler will find that viewed from any angle, costs are reduced to a minimum.

This boiler is a highly efficient unit, all steel construction, and of limited bulk. It is made up of single sheets double electric welded, inside and outside and has no longitudinal seams in shell. It is of the three-pass type, with rounded top furnace, ample passages for steam production and flame travel, producing excellent circulation, resulting in high efficiency with corresponding economy.

The boiler is called Compact because it has a larger volume of combustion space for long flame travel and a greater area of heating surface than any other type. This saves space so valuable in buildings.

The boiler is delivered complete and requires no further brick work. The cost of installation is therefore greatly reduced.

The smoke connection is on the rear of boiler, allowing it to be placed close to the stack, requiring very short connections, thereby reducing breeching investment costs to a minimum.

Smoke is an economic waste. It represents unburned volatile matter in the coal. In bituminous coal it runs as high as 36% of the total weight and represents almost 50% of its heating value. Smoke is formed by hot gases being chilled by the relatively cool heating surfaces of the boiler and flues.

There are no chilling surfaces introduced in the furnace of "S.R." Compact Boilers. The furnace volume is large, being almost as long as the boiler. This allows long flame travel which gives ample time for complete burning of the combustibles, thus preventing smoke.

The Titusville Series "S. R." Compact Boilers cut initial costs of installation, space and piping required. By their general over-all built-in efficiency, costs of maintenance and operation are reduced. Constant dividends are assured.

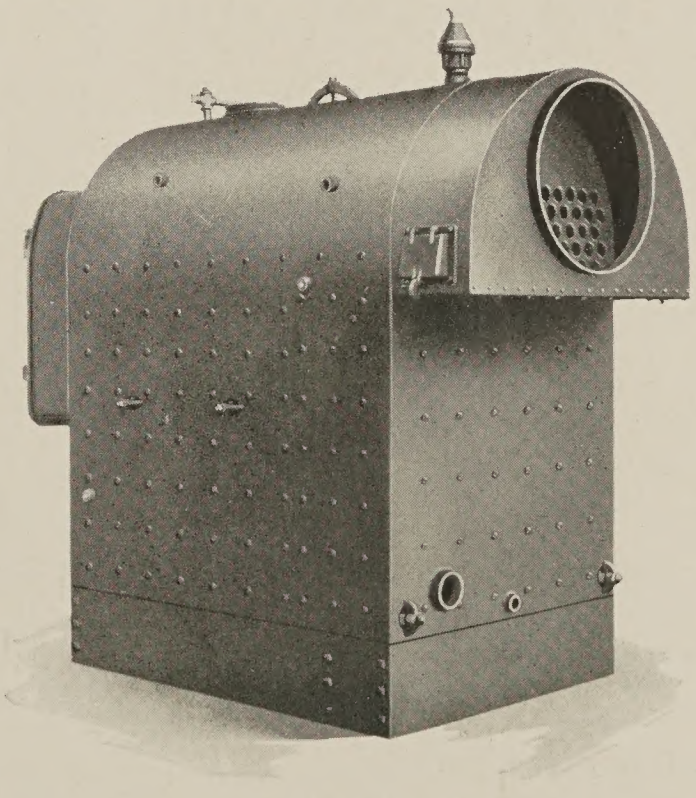


FIG. 6095

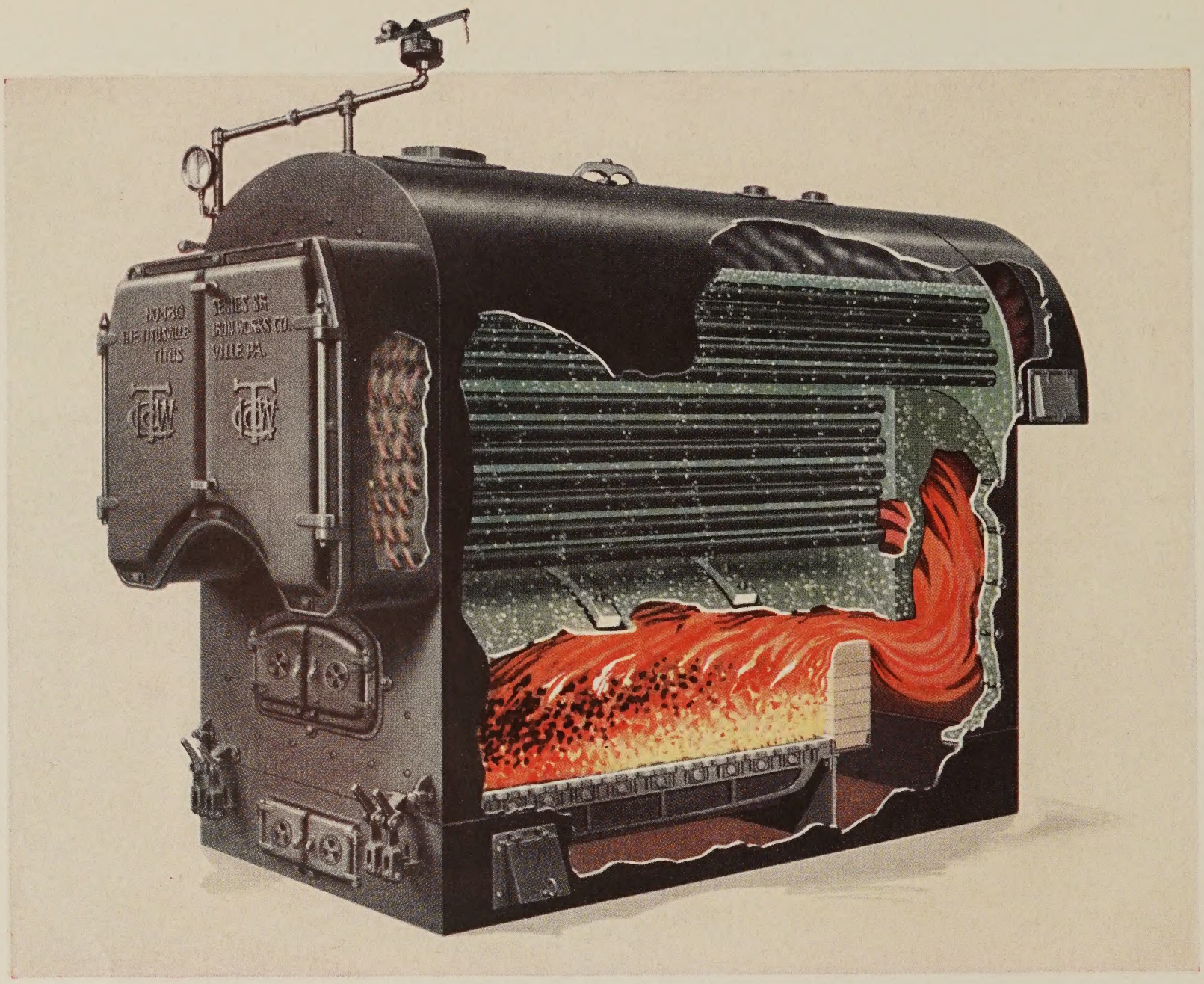


FIG. 6076

# SERIES "S. R. A."—TITUSVILLE COMPACT BOILERS UP-DRAFT—FOR ANTHRACITE COAL

ANTHRACITE, the best coal, consists almost entirely of carbon. It contains very little volatile matter in the form of hydrocarbon and will burn without smoke. It ignites and burns slowly but requires a larger grate area in proportion to capacity than is necessary for bituminous coal.

In "S. R. A." Compact Boilers built for anthracite coal, the grate surface is correctly proportioned to their capacity. The 3-inch tubes and long back and forth travel of the gases reduce the flue gas temperature, promote heat transfer and insure unusually high operating efficiency. The full benefit from radiant heat is obtained by providing large areas of direct heating surfaces. These, being entirely surrounded by water with ample space for circulation, assist materially in maintaining economy. "S. R. A." Compact Boilers having ample space for water and steam circulation, large grate and furnace volume, with the three-pass type compact placing of heating surfaces, result in unusual over-all efficiency with reduced operating costs.

The boiler is complete as shipped, ready for service when piped and is a very practical steam generating unit.

SHORT LENGTH
REAR SMOKE OUTLET
ANTHRACITE COAL

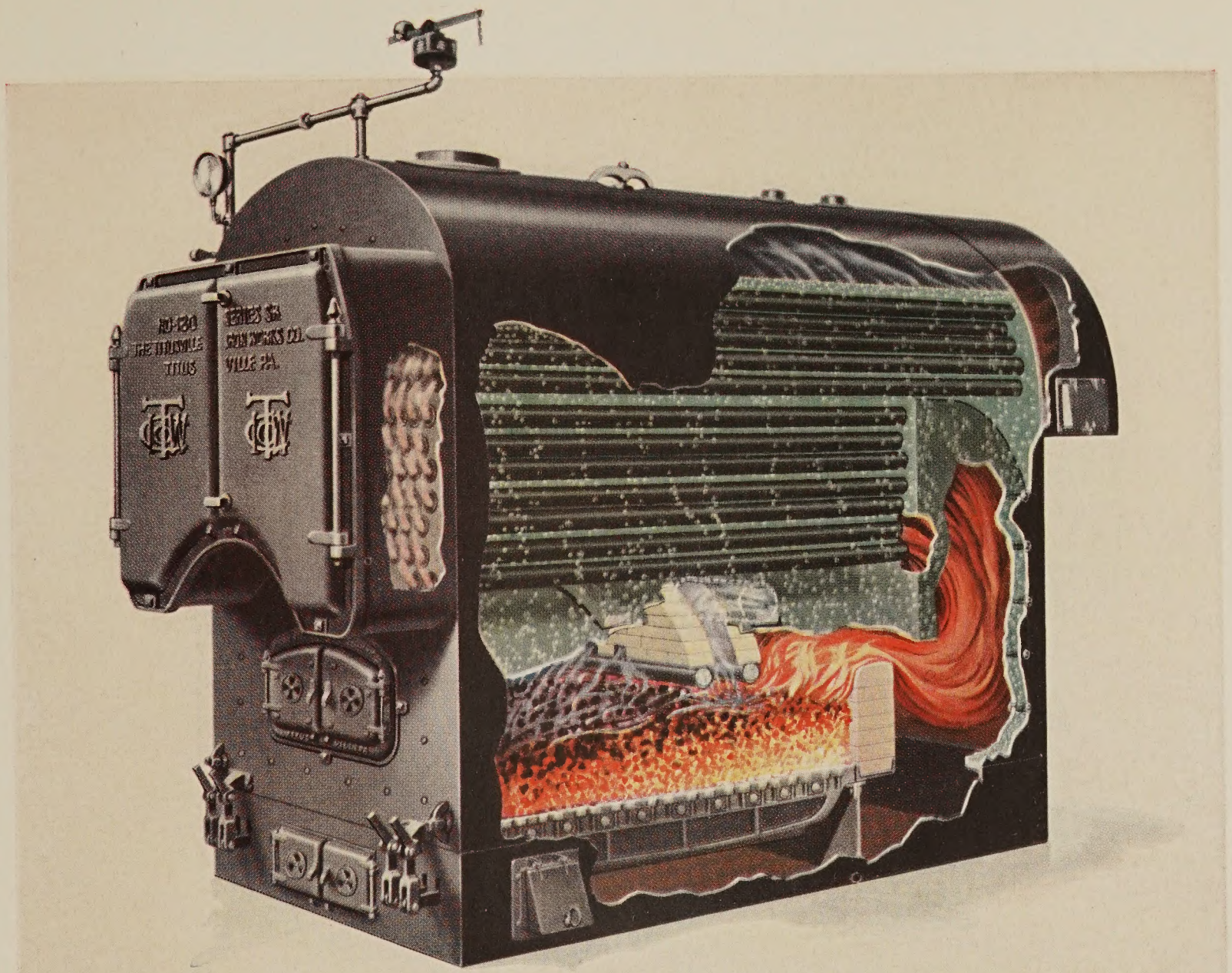


FIG. 6086

# SERIES "S. R. B."—TITUSVILLE COMPACT BOILERS SMOKELESS TYPE—FOR BITUMINOUS COAL

BITUMINOUS coal, commonly called soft coal, is because of its wide distribution, most used for both power and heating. It is free burning, breaks up readily, but, unless properly handled, produces large quantities of smoke and ash, due to incomplete combustion. This creates a nuisance and waste and adds to your operating costs.

Proper heating at minimum cost is a built-in feature of "S. R. B." Compact Boilers made for burning smokelessly all grades of soft coal. The furnace is in two parts separated by a baffle mounted on water tube headers, which drives the distilled volatile matter, mixed with secondary air obtained through air inlets, down into the incandescent coke on the rear grate. This assures complete combustion without smoke.

This combining of furnace with combustion chamber gives the large volume necessary for proper combustion together with space for long flame travel, allowing time for primary and secondary air to act.

The compact placing of heating surfaces in the three-pass type using 3½-inch diameter flues gives low temperature to the stack gases.

SHORT LENGTH
REAR SMOKE OUTLET
BITUMINOUS COAL

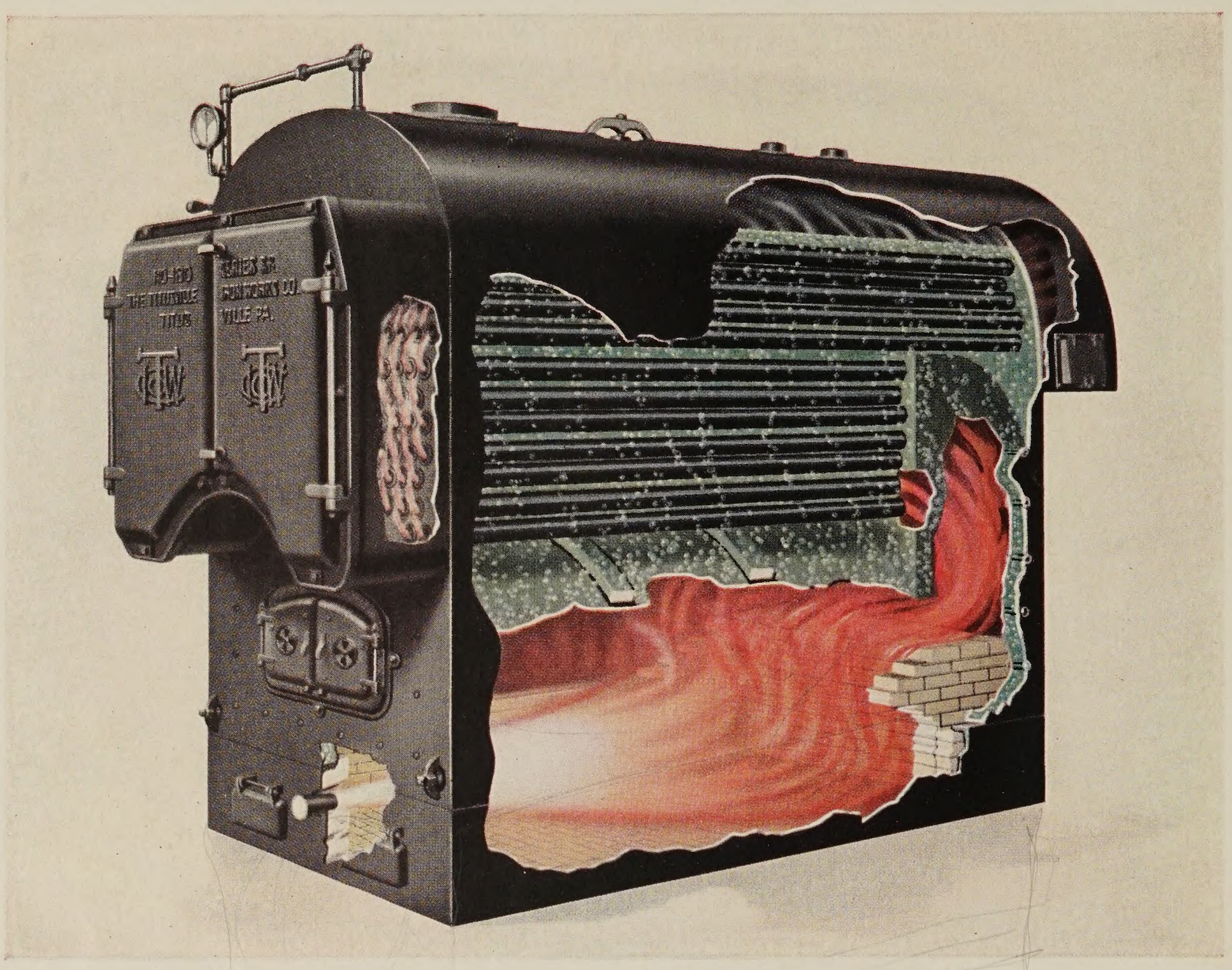


FIG. 6096

# SERIES "S. R. O."—TITUSVILLE COMPACT BOILERS FOR OIL BURNING

FUEL costs are the main consideration when making steam at any pressure, and oil is the cheapest and most desirable fuel at prices at all comparable with coal. It is a well-known fact that the capacity of boilers burning oil can not be equalled by hand firing and that they save labor even over stoker fired units.

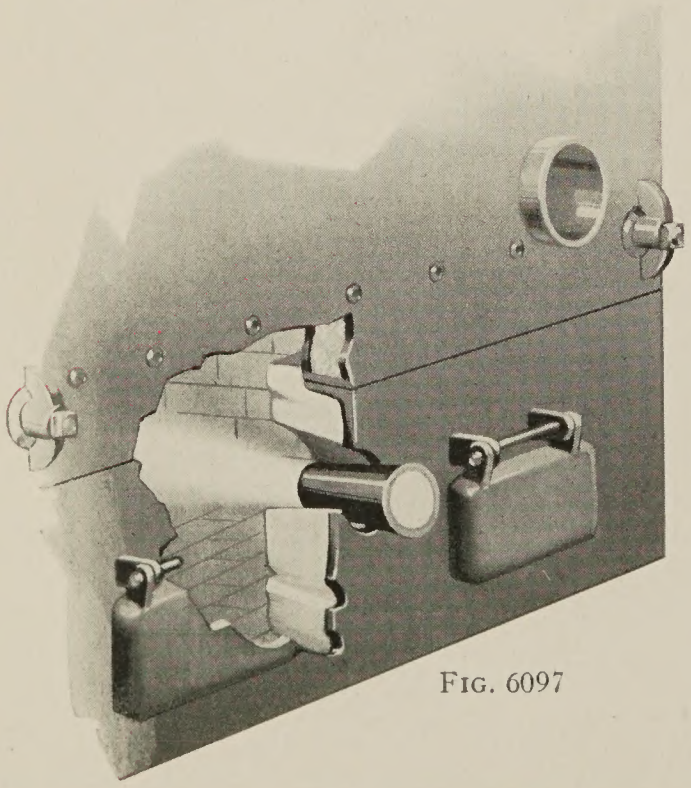


FIG. 6097

The greatest flexibility is obtained with oil-fired boilers, and their efficiency compared with stoker firing is practically the same.

The above good and sufficient reasons, added to the fact that oil-fired boilers have low first cost for installation, convenience and simplicity in handling and the added fact that oil does not deteriorate in storage while coal does, places the oil-fired boiler in a most enviable position.

The firing is practically smokeless, there is a marked

SHORT LENGTH
REAR SMOKE OUTLET
OIL FIRED

absence of dirt, no coal to be handled and no ashes to be removed. These are points to be well weighed before decision is made relative to oil-fired boilers.

"S. R. O." Boilers are regular standard "S. R. A." Boilers without alteration except that in the former the ash pit and front are made to take the oil burner. They have all the built-in features required for successful oil burning. The furnace is long for flame travel, the volume of furnace and combustion chamber is correct for complete combustion and the heating surfaces are compactly arranged in three-pass type for rapid, efficient heat transfer.

There are no ridges in the furnace to hold carbon deposits on the inside or scale deposits on the outside, which would cause over heating of plates.

The entire unit is designed to successfully handle oil from first cost all through the life of the boiler. Dividends will reward investigation and use of Titusville "S. R. O." Boilers.

Series "S. R. O." Boilers are changeable from oil to coal as desired, by installing grates.

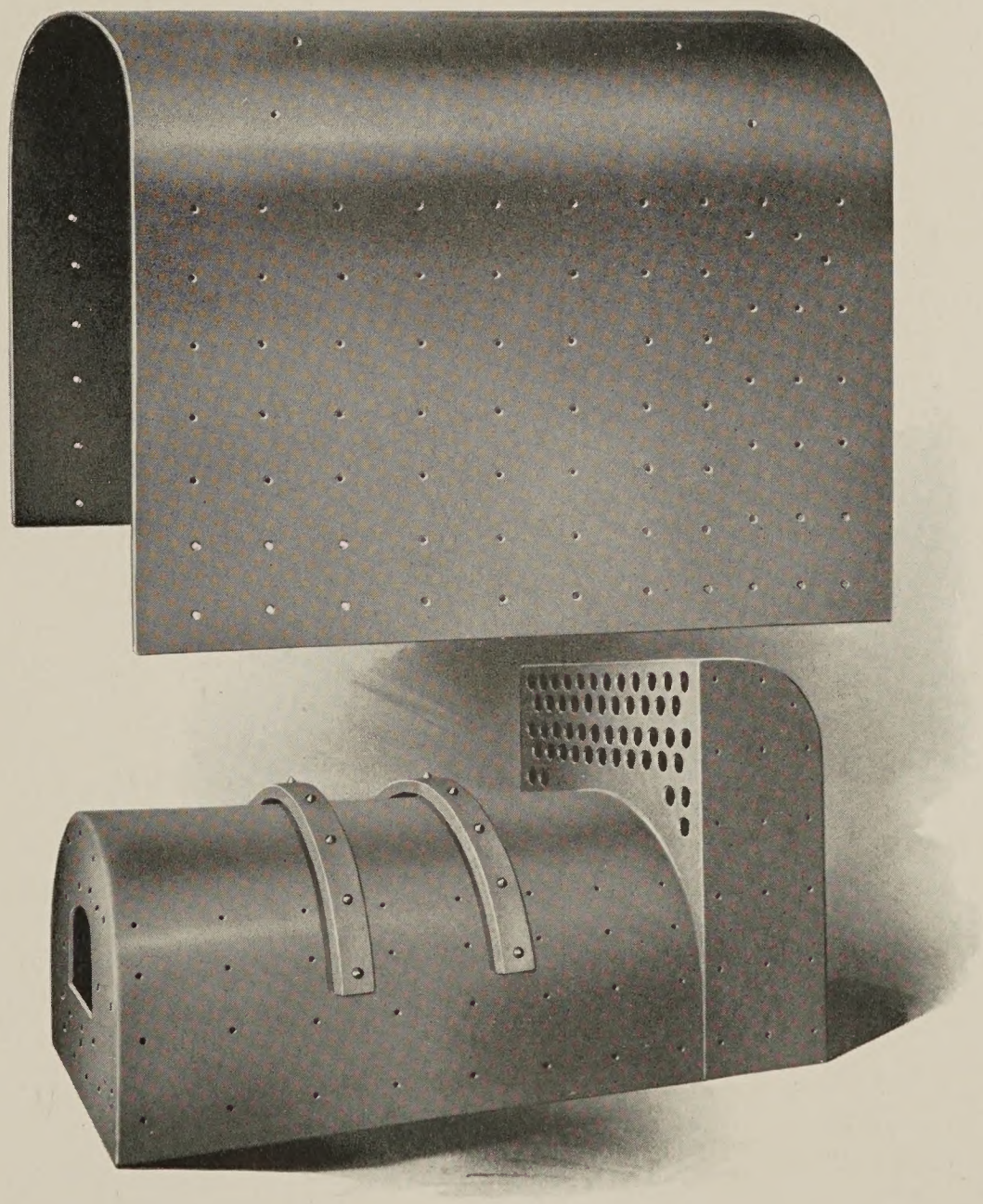


Fig. 6078

Fire-Box Assembly with Outer Shell

# *Features of Design of* TITUSVILLE

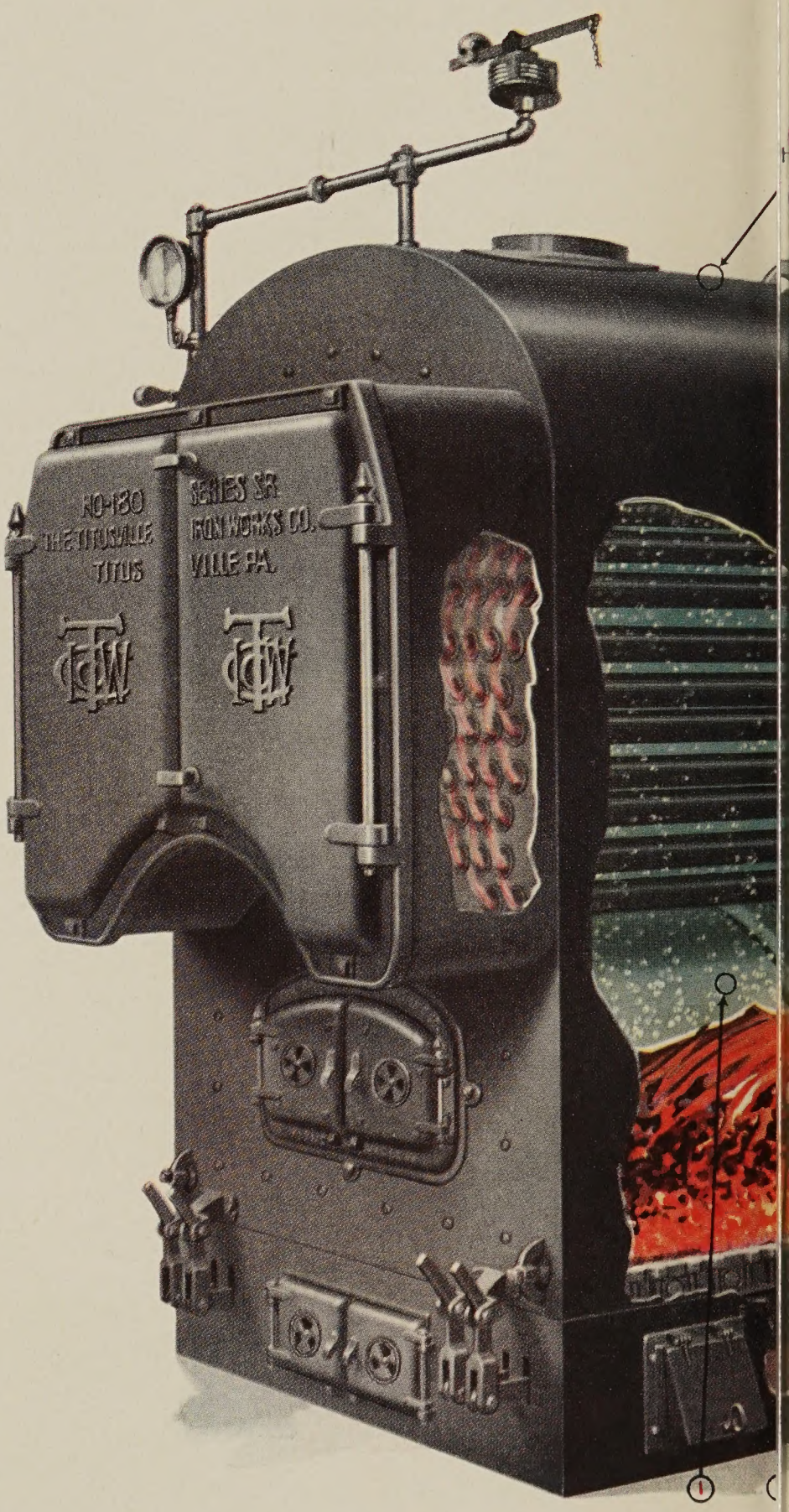
**1** ALL SERIES
"S. R." BOILERS
are built with TITUSVILLE Self-Cleaning, Self-Supporting type Fire-Box. Crown sheet so designed to allow all sediment to drop down to bottom of boiler where it can be easily flushed out.

**2** THE
CROWN BARS
give added strength to the round top furnace which has strength due to shape and there are no obstructions or chilling surfaces introduced into the furnace to make smoke.

**3** THE
WATER CONTENT
of boiler is split up where necessary for quick steaming with no dead end pockets to retard circulation. Large volumes of water adjoin the hottest parts of boiler permitting the useful heat of combustion to be readily absorbed.

**4** THE
WATER LINE
remains steady with rapid circulation as the entire surface at water line is free of obstruction. This means dry steam for use in radiation.

**5** THE
RESERVE SUPPLY
of dry steam is of large volume due to the height and width of steam space extending unbroken from end to end of boiler.



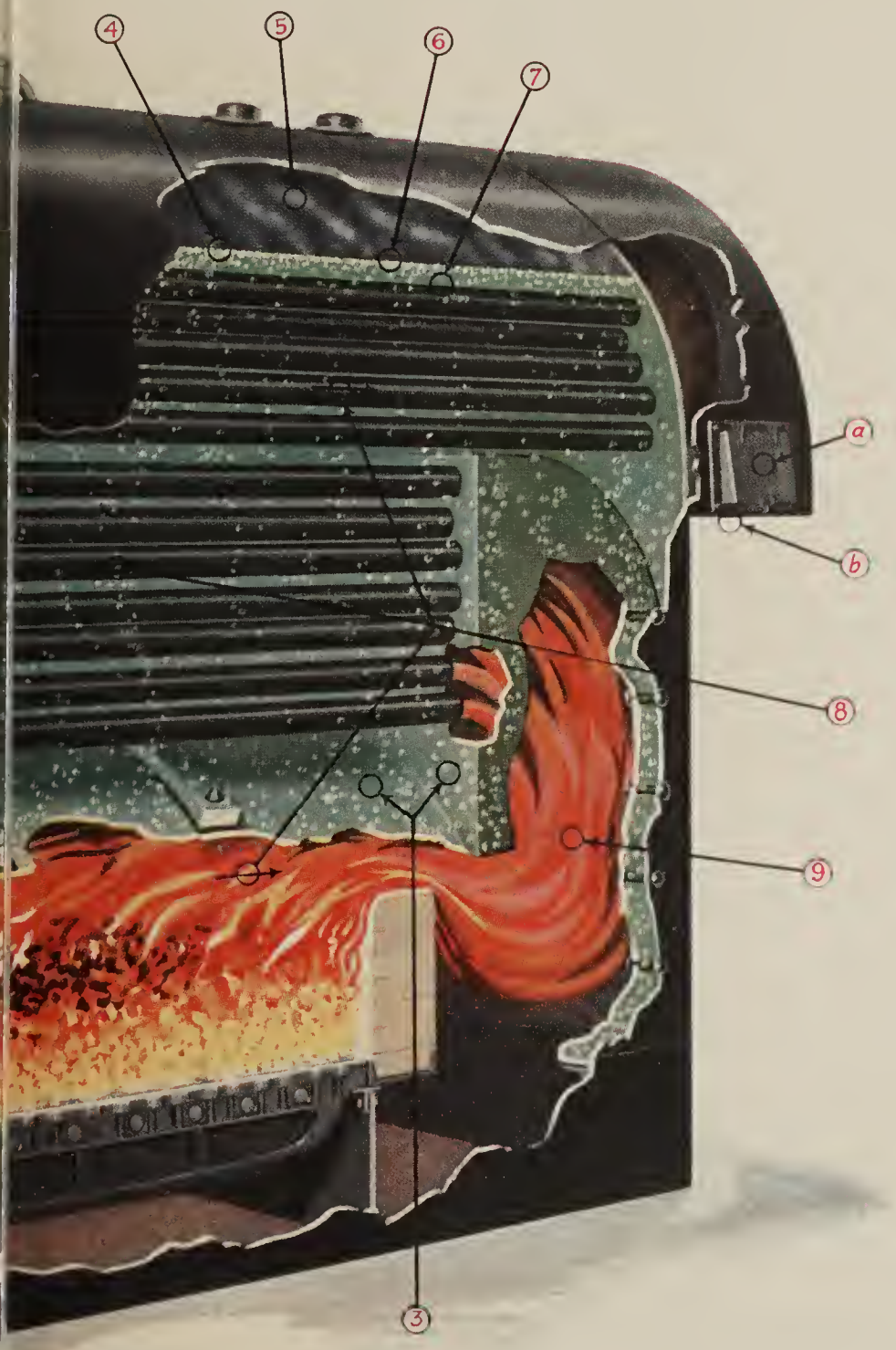

## SERIES "S. R." C

will burn any available fuel—they will operat
*All "S. R." Boilers can be built for*

3-INCH TUBES ARE USED FOR ANTHRACI
3½-INCH TUBES ARE

# ERIES "S. R." *Compact, Steel Boilers*

E.-ONE PIECE-NO JOINTS




**6** THE STEAM LIBERATING SURFACE
at the water line is a large, free area to prevent priming.

**7** ALL HEATING SURFACES
being under water make them effective for steam production.

NOTE: (*a*) Inspection and clean-out doors, one on each side, allow operator to really see what he is doing.

(*b*) Removable bottom gives ready access to tubes.

Handholes on both sides at level of crown. Water column connections are on both sides.

**8** THE THREE-PASS TYPE
compact placing of heating surfaces permits rapid, free circulation of water and gives the hot gases time to give up their heat, resulting in low temperature to stack gases.

**9** THE LARGE VOLUME
obtained by combining furnace with combustion chamber gives the necessary long flame travel with the time required for primary and secondary air to properly act. Complete combustion results.

## MPACT BOILERS

either anthracite or bituminous coal, oil or gas
*ith Stoker Equipment when so ordered*

AL AND FOR OIL OR GAS-FIRED BOILERS
FOR BITUMINOUS COAL

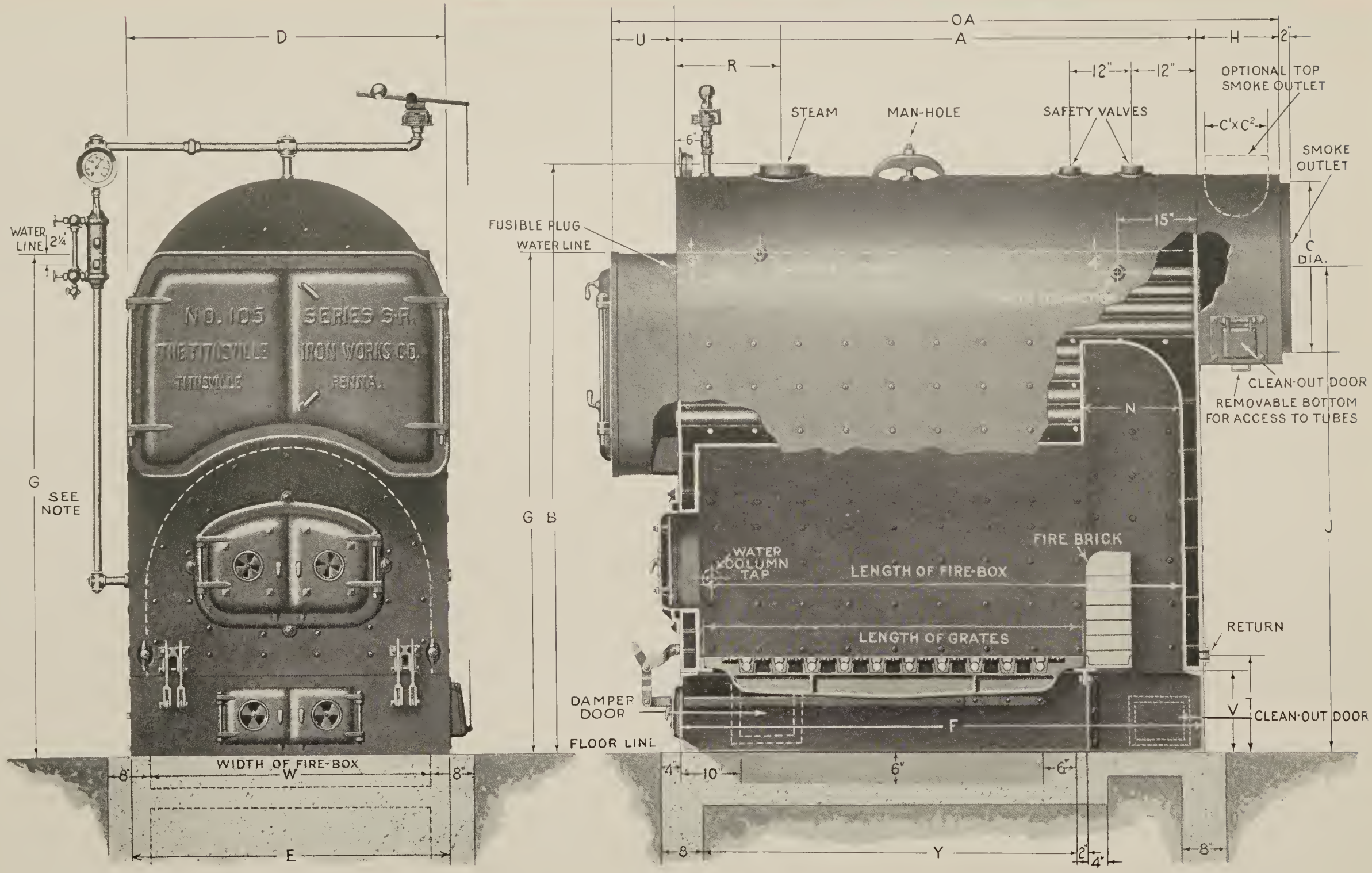



FIG. 6072

Standard Equipment consists of: All usual castings shown on Fig. 6072. All Metal Ash Pit Base, Damper in top smoke collar when furnished and Acme Shaking Grates.

Standard Steam Trimmings consist of: Plain Water Column, Water Glass, Two Gauge Cocks, Low Pressure Steam Gauge and Syphon, Pop Safety Valves set to blow at 15 lbs., and Damper Regulator. When more than one safety valve is necessary, a Y connection or separate Flanges are furnished.

Five-inch diameter Steam Gauge furnished with Boilers up to and including 54″ diameter. 8½″ diameter Steam Gauge furnished with Boilers 60″ diameter and up. No water column piping furnished. Flue Brush furnished with all Boilers. Fire Tools: Hoe, Poker, and Slice Bar, furnished only when grates are specified.

Special Equipment: Dumping or stationary grates, cast iron ash pit front, special trimmings can be furnished at additional cost.

All Tubes are 3″ diameter. All Boilers 54″ diameter and larger have Manhole in Shell.

See Form 6083 for BITUMINOUS COAL BURNING BOILERS.

See Form 6093 for OIL AND GAS BURNING BOILERS.

The Height of water line "G" is the distance from the finished floor to the line on water column.

The ash pits should be depressed from 9 inches to 12 inches on the 78-inch and 84-inch diameter boilers instead of 6 inches as shown on cut above.

Fire Brick Bridge Wall shipped in boiler as shown.

See Page 18 for Foundation Plan.

TITUSVILLE SERIES "S. R. A."—COMPACT TYPE WELDED FIRE-BOX BOILERS—UP-DRAFT FOR ANTHRACITE COAL

# TITUSVILLE SERIES "S. R. A." COMPACT TYPE WELDED BOILERS

## A. S. M. CODE

| No. of boiler "S. R. A." | 23-A | 29-A | 36-A | 42-A | 46-A | 54-A | 59-A | 65-A | 71-A | 77-A | 90-A | 97-A | 110-A | 121-A | 133-A | 145-A | 164-A | 187-A | 209-A | 225-A | 256-A | 294-A | 331-A | 376-A |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Code | Sera | Serb | Serd | Serf | Serg | Serk | Serl | Serm | Sern | Sero | Serp | Sers | Sert | Serv | Serab | Serae | Serad | Seraf | Serag | Serah | Serak | Seral | Seram | Serap |
| Capacity direct radiation, steam....sq.ft. | 2310 | 2950 | 3640 | 4200 | 4670 | 5440 | 5950 | 6510 | 7150 | 7700 | 9000 | 9700 | 11040 | 12110 | 13340 | 14500 | 16420 | 18700 | 20900 | 22510 | 25620 | 29400 | 33100 | 37600 |
| Capacity direct radiation, water....sq.ft. | 3690 | 4720 | 5820 | 6720 | 7470 | 8700 | 9520 | 10401 | 11440 | 12320 | 14400 | 15520 | 17660 | 19380 | 21340 | 23200 | 26270 | 29920 | 33440 | 36020 | 40990 | 47040 | 52960 | 60160 |
| Heating surface....sq.ft. | 194 | 230 | 260 | 300 | 334 | 389 | 425 | 465 | 511 | 550 | 643 | 693 | 789 | 865 | 953 | 1036 | 1173 | 1336 | 1493 | 1608 | 1830 | 2100 | 2365 | 2686 |
| Grate surface....sq.ft. | 9.1 | 10.4 | 11.6 | 12.5 | 14.0 | 15.5 | 18.1 | 19.8 | 19.8 | 20.6 | 22.6 | 24.7 | 25.5 | 27.7 | 27.7 | 28.2 | 30.8 | 34.0 | 36.7 | 37.0 | 40.0 | 43.0 | 46.5 | 49.7 |
| Width of boiler....."D"....ins. | 36 | 36 | 36 | 42 | 42 | 42 | 48 | 48 | 48 | 54 | 54 | 54 | 60 | 60 | 60 | 66 | 66 | 72 | 72 | 78 | 78 | 78 | 84 | 84 |
| Length of shell....."A"....ins. | 57 | 66 | 74 | 70 | 78 | 89 | 77 | 83 | 91 | 79 | 92 | 98 | 85 | 93 | 102 | 108 | 122 | 115 | 128 | 127 | 144 | 165 | 130 | 147 |
| Length overall....."O-A"....ft.-ins. | 6–5 | 7–2 | 7–10 | 7–10 | 8–6 | 9–5 | 8–8 | 9–2 | 9–10 | 8–10 | 9–11 | 10–5 | 9–5 | 10–1 | 10–10 | 11–6 | 12–8 | 12–5 | 13–6 | 13–5 | 14–10 | 16–7 | 13–8 | 15–1 |
| Width of fire-box and grate "W"....ins. | 30 | 30 | 30 | 36 | 36 | 36 | 42 | 42 | 42 | 48 | 48 | 48 | 54 | 54 | 54 | 60 | 60 | 66 | 66 | 72 | 72 | 72 | 78 | 78 |
| Length of fire-box....ins. | 49½ | 58½ | 66½ | 62½ | 70½ | 81½ | 69½ | 75½ | 83½ | 71½ | 84½ | 90½ | 77½ | 85½ | 94½ | 100¼ | 114¼ | 107¼ | 120¼ | 119¼ | 136¼ | 157¼ | 122 | 139 |
| Height of fire-box....ins. | 26 | 26 | 26 | 30 | 30 | 30 | 32 | 32 | 32 | 34 | 34 | 34 | 37 | 37 | 37 | 40 | 40 | 42 | 42 | 44 | 44 | 44 | 46 | 46 |
| Length of grates....ins. | 44 | 50 | 56 | 50 | 56 | 62 | 62 | 68 | 68 | 62 | 68 | 74 | 68 | 74 | 74 | 68 | 74 | 74 | 80 | 74 | 80 | 86 | 86 | 92 |
| Depth of rear connection "N"....ins. | 17½ | 17½ | 17½ | 18 | 18 | 18 | 18 | 18 | 18 | 18 | 18 | 18 | 18 | 18 | 18 | 18¾ | 18¾ | 18¾ | 18¾ | 18¾ | 18¾ | 18¾ | 18½ | 18½ |
| Furnace Volume....cu.ft. | 32 | 36 | 40 | 54 | 59 | 66 | 72 | 77 | 80 | 89 | 102 | 109 | 114 | 124 | 134 | 158 | 178 | 193 | 215 | 232 | 261 | 297 | 279 | 312 |
| No. of 3" direct tubes....| 28 | 28 | 28 | 31 | 31 | 31 | 42 | 42 | 42 | 52 | 52 | 52 | 68 | 68 | 68 | 69 | 69 | 87 | 87 | 94 | 94 | 94 | 139 | 139 |
| Length of direct tubes....ins. | 36½ | 45½ | 53½ | 49 | 57 | 68 | 56 | 62 | 70 | 58 | 71 | 77 | 64 | 72 | 81 | 86 | 100 | 93 | 106 | 105 | 122 | 143 | 108 | 125 |
| No. of 3" return tubes....| 26 | 26 | 26 | 31 | 31 | 31 | 44 | 44 | 44 | 54 | 54 | 54 | 72 | 72 | 72 | 72 | 72 | 86 | 86 | 90 | 90 | 90 | 139 | 139 |
| Length of return tubes....ins. | 58 | 67 | 75 | 71 | 79 | 90 | 78 | 84 | 92 | 80 | 93 | 99 | 86 | 94 | 103 | 109 | 123 | 116 | 129 | 128 | 145 | 166 | 131 | 148 |
| Size of steam outlet....ins. | 6 | 6 | 6 | 6 | 6 | 6 | 8 | 8 | 8 | 8 | 8 | 8 | 10 | 10 | 10 | 10 | 10 | 12 | 12 | 12 | 12 | 12 | 12 | 12 |
| Size of return outlet....ins. | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 6 | 6 | 6 | 6 | 6 | 6 | 6 |
| Size of safety valves....ins. | 2 | 2 | 2 | 2 | 2 | 2½ | 2½ | 3 | 3 | 3 | 3 | 3½ | 3½ | 3½ | 3½ | 2–2½ | 2–2½ | 2–2½ | 2–2½ | 2–2½ | 2–3 | 2–3 | 2–3 | 2–3½ |
| Sizes of blow-off....ins. | 1½ | 1½ | 1½ | 1½ | 1½ | 1½ | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2½ | 2½ | 2½ | 2½ | 2½ | 2½ | 2½ | 2½ | 2½ |
| Weight of bare boiler....lbs. | 4000 | 4300 | 4600 | 5400 | 5800 | 6200 | 6800 | 7200 | 7700 | 8700 | 9700 | 10300 | 11500 | 12300 | 13000 | 14200 | 15600 | 17300 | 19100 | 20100 | 22100 | 25500 | 27500 | 29800 |
| Weight of boiler complete....lbs. | 4900 | 5300 | 5800 | 6700 | 7200 | 7700 | 8500 | 9100 | 9700 | 10700 | 11700 | 12400 | 13700 | 14800 | 15500 | 16800 | 18400 | 20250 | 22500 | 23650 | 25800 | 29550 | 31700 | 34150 |
| Height of water line....."G"....ins. | 68 | 68 | 68 | 70½ | 70½ | 70½ | 81 | 81 | 81 | 85 | 85 | 85 | 94 | 94 | 94 | 93½ | 93½ | 98½ | 98½ | 100 | 100 | 100 | 114 | 114 |
| Height overall....."B"....ins. | 79½ | 79½ | 79½ | 84 | 84 | 84 | 98 | 98 | 98 | 101 | 101 | 101 | 111½ | 111½ | 111½ | 113¼ | 113¼ | 118½ | 118½ | 124½ | 124½ | 124½ | 136⅝ | 136⅝ |
| Dia. rear smoke outlet...."C"....ins. | 22 | 22 | 22 | 24 | 24 | 24 | 26 | 26 | 26 | 28 | 28 | 28 | 32 | 32 | 32 | 34 | 34 | 36 | 36 | 40 | 40 | 40 | 42 | 42 |
| Size of top smoke outlet "$C^1$x$C^2$"....ins. | 10x36 | 10x36 | 10x36 | 12x40 | 12x40 | 12x40 | 13x44 | 13x44 | 13x44 | 13x50 | 13x50 | 13x50 | 14x60 | 14x60 | 14x60 | 16x60 | 16x60 | 18x61 | 18x61 | 18x74 | 18x74 | 18x74 | 18x81 | 18x81 |
| Width of base....."E"....ins. | 37¼ | 37¼ | 37¼ | 43¼ | 43¼ | 43¼ | 49¼ | 49¼ | 49¼ | 55¼ | 55¼ | 55¼ | 61¼ | 61¼ | 61¼ | 67½ | 67½ | 73½ | 73½ | 79½ | 79½ | 79½ | 85¾ | 85¾ |
| Length of base....."F"....ins. | 57 | 66 | 74 | 70 | 78 | 89 | 77 | 83 | 91 | 79 | 92 | 98 | 85 | 93 | 102 | 108 | 122 | 115 | 128 | 127 | 144 | 165 | 130 | 147 |
| Length front smoke box..."U"....ins. | 8 | 8 | 8 | 10 | 10 | 10 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 14 | 14 | 14 | 14 | 14 | 14 | 14 |
| Length rear smoke box...."H"....ins. | 12 | 12 | 12 | 14 | 14 | 14 | 15 | 15 | 15 | 15 | 15 | 15 | 16 | 16 | 16 | 18 | 18 | 20 | 20 | 20 | 20 | 20 | 20 | 20 |
| Height rear smoke outlet.."J"....ins. | 64 | 64 | 64 | 67 | 67 | 67 | 79 | 79 | 79 | 82 | 82 | 82 | 91 | 91 | 91 | 90¾ | 90¾ | 94½ | 94½ | 98½ | 98½ | 98½ | 109⅝ | 109⅝ |
| Length of foundation...."K"....ins. | 65 | 74 | 82 | 78 | 86 | 97 | 85 | 91 | 99 | 87 | 100 | 106 | 93 | 101 | 110 | 116 | 130 | 123 | 136 | 135 | 152 | 173 | 138 | 155 |
| Location of steam outlet.."R"....ins. | 15 | 15 | 15 | 15 | 15 | 15 | 18 | 18 | 18 | 18 | 18 | 18 | 21 | 21 | 21 | 21 | 21 | 24 | 24 | 24 | 24 | 24 | 24 | 24 |
| Location return outlet...."T"....ins. | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 |
| Height of ash pit base...."V"....ins. | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 |
| Width of ash pit....."W"....ins. | 30 | 30 | 30 | 36 | 36 | 36 | 42 | 42 | 42 | 48 | 48 | 48 | 54 | 54 | 54 | 60 | 60 | 66 | 66 | 72 | 72 | 72 | 78 | 78 |
| Length of ash pit....."Y"....ins. | 42 | 48 | 54 | 48 | 54 | 60 | 60 | 66 | 66 | 60 | 66 | 72 | 66 | 72 | 72 | 66 | 72 | 72 | 78 | 72 | 78 | 84 | 84 | 90 |
| Dia. breeching—1 boiler....ins. | 22 | 22 | 22 | 24 | 24 | 24 | 26 | 26 | 26 | 28 | 28 | 28 | 32 | 32 | 32 | 34 | 34 | 36 | 36 | 40 | 40 | 40 | 42 | 42 |
| Dia. stack—1 boiler....ins. | 20 | 20 | 20 | 22 | 22 | 22 | 24 | 24 | 24 | 26 | 26 | 26 | 30 | 30 | 30 | 32 | 32 | 34 | 34 | 38 | 38 | 38 | 40 | 40 |
| Minimum height of stack....ft. | 50 | 50 | 50 | 55 | 55 | 55 | 60 | 60 | 60 | 65 | 65 | 65 | 70 | 70 | 70 | 70 | 70 | 80 | 90 | 90 | 90 | 90 | 100 | 100 |
| Dia. breeching—2 boilers....ins. | 30 | 30 | 30 | 34 | 34 | 34 | 38 | 38 | 38 | 40 | 40 | 40 | 46 | 46 | 46 | 50 | 50 | 52 | 52 | 56 | 56 | 56 | 58 | 58 |
| Dia. stack—2 boilers....ins. | 28 | 28 | 28 | 31 | 31 | 31 | 34 | 34 | 34 | 36 | 36 | 36 | 42 | 42 | 42 | 46 | 46 | 48 | 48 | 54 | 54 | 54 | 56 | 56 |
| Min. height stack—2 boilers....ft. | 60 | 60 | 60 | 65 | 65 | 65 | 70 | 70 | 70 | 75 | 75 | 75 | 80 | 80 | 80 | 80 | 80 | 90 | 100 | 100 | 100 | 100 | 110 | 110 |
| Asbestos covering required... sq.... ft. | 69 | 80 | 85 | 93 | 100 | 110 | 116 | 124 | 135 | 140 | 153 | 163 | 170 | 185 | 192 | 200 | 225 | 230 | 250 | 265 | 292 | 310 | 325 | 340 |
| Size of fire door | 12"x16" | | | 16"x22" | | | | | | | | | 18"x30" | | | | | | | | | | | |

TITUSVILLE SERIES "S.R.A."—COMPACT TYPE WELDED FIRE-BOX BOILERS—UP-DRAFT FOR ANTHRACITE COAL

MEMBER STEEL HEATING BOILER INSTITUTE—CODE RATINGS GIVEN



Issue 1932

Form 6073

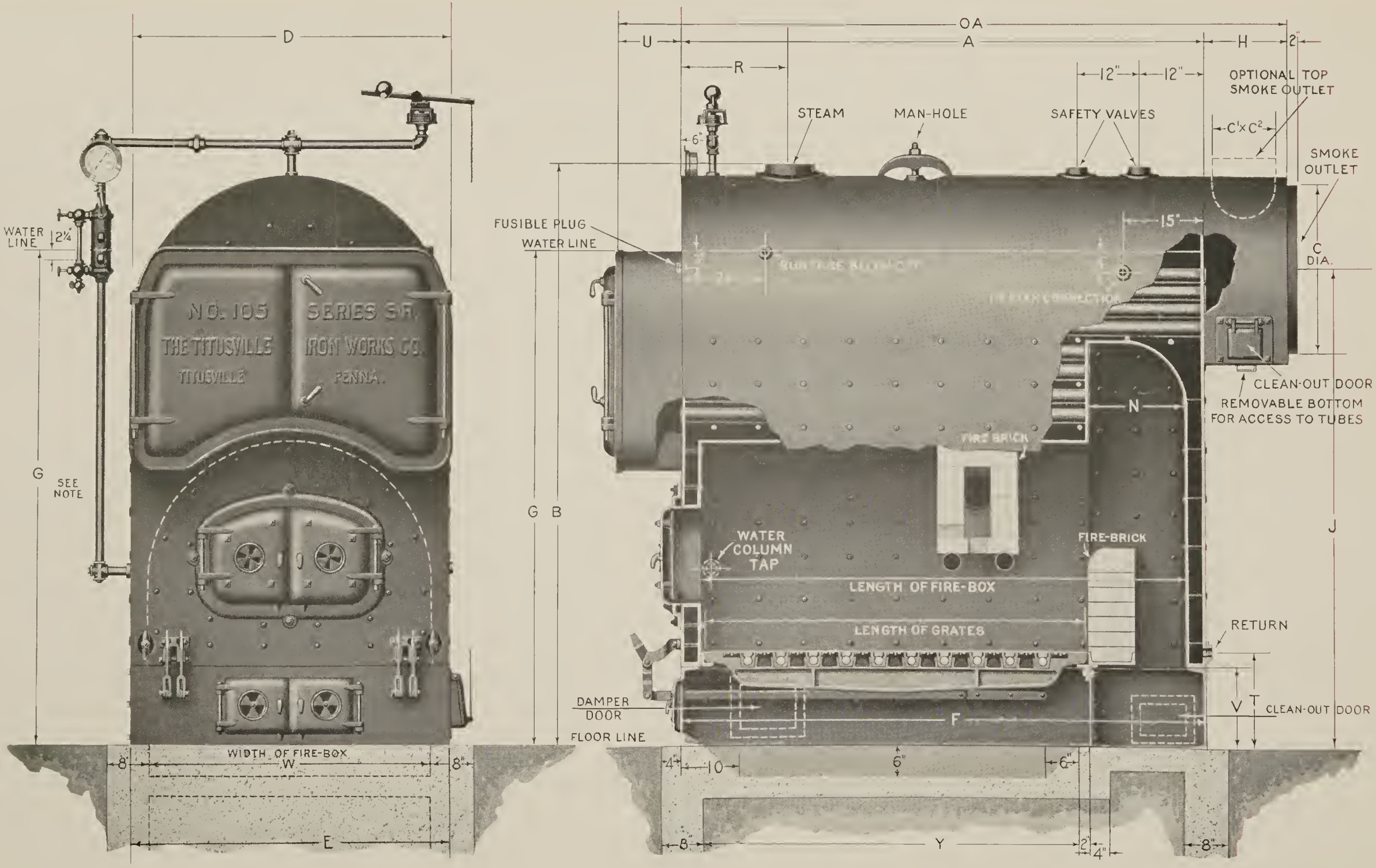



Fig. 6082

Standard Equipment consists of: All usual castings shown on Fig. 6082, All Metal Ash Pit Base, Damper in top smoke collar when furnished, and Acme Shaking Grates.

Standard Steam Trimmings consist of: Plain Water Column, Water Glass, Two Gauge Cocks, Low Pressure Steam Gauge and Syphon, Pop Safety Valves, set to blow at 15 lbs., and Damper Regulator. When more than one safety valve is necessary, a Y connection or separate Flanges are furnished.

Five-inch diameter Steam Gauge furnished with Boilers up to and including 54″ diameter, 8½″ diameter Steam Gauge furnished with Boilers 60″ diameter and up. No water column piping furnished. Flue Brush furnished with all Boilers. Fire Tools. Hoe, Poker, and Slice Bar, furnished only when grates are specified.

Special Equipment: Dumping or stationary grates, cast iron ash pit front, or special trimmings can be furnished at additional cost.

All Tubes are 3½″ diameter. All Boilers 54″ diameter and larger have Manhole in Shell.

See Form 6073 for Anthracite Coal Burning Boilers.

See Form 6093 for Oil and Gas Burning Boilers.

The Height of water line "G" is the distance from the finished floor to the line on water column.

The ash pits should be depressed from 9 inches to 12 inches on the 78-inch and 84-inch diameter boilers instead of 6 inches as shown on cut above.

Fire Brick shipped in boiler as shown.

See Page 18 for Foundation Plan.

TITUSVILLE SERIES "S. R. B."—COMPACT TYPE WELDED FIRE-BOX BOILERS—UP-DRAFT FOR BITUMINOUS COAL

# TITUSVILLE SERIES "S. R. B." COMPACT TYPE WELDED BOILERS

## A. S. M. E. CODE

| No. of boiler "S. R. B." | 20-B | 24-B | 27-B | 37-B | 41-B | 47-B | 52-B | 57-B | 63-B | 64-B | 76-B | 80-B | 95-B | 105-B | 116-B | 131-B | 149-B | 166-B | 185-B | 211-B | 240-B | 275-B | 291-B | 330-B |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Code | Sraz | Srby | Srcx | Srdw | Srev | Srfu | Srgt | Srhs | Srir | Srjp | Srko | Srln | Srml | Srnk | Sroj | Srpi | Srsh | Srtg | Sruf | Srve | Srwd | Srxc | Sryb | Srza |
| Capacity direct radiation, steam sq.ft. | 2060 | 2430 | 2740 | 3720 | 4100 | 4700 | 5230 | 5750 | 6300 | 6400 | 7650 | 8000 | 9500 | 10520 | 11600 | 13130 | 14910 | 16600 | 18500 | 21140 | 24010 | 27520 | 29120 | 33020 |
| Capacity direct radiation, water sq.ft. | 3290 | 3880 | 4380 | 5950 | 6560 | 7520 | 8370 | 9200 | 10080 | 10240 | 12240 | 12800 | 15200 | 16830 | 18560 | 21000 | 23850 | 26560 | 29600 | 33820 | 38410 | 44030 | 46590 | 52830 |
| Heating surface sq.ft. | 147 | 174 | 196 | 266 | 293 | 336 | 374 | 411 | 450 | 457 | 547 | 572 | 679 | 752 | 829 | 938 | 1065 | 1187 | 1322 | 1510 | 1715 | 1966 | 2080 | 2359 |
| Grate surface sq.ft. | 9.1 | 10.4 | 11.6 | 12.5 | 14.0 | 15.5 | 18.1 | 19.8 | 19.8 | 20.6 | 22.6 | 24.7 | 25.5 | 27.7 | 27.7 | 28.2 | 30.8 | 34.0 | 36.7 | 37.0 | 40.0 | 43.0 | 46.5 | 49.7 |
| Width of boiler "D" ins. | 36 | 36 | 36 | 42 | 42 | 42 | 48 | 48 | 48 | 54 | 54 | 54 | 60 | 60 | 60 | 66 | 66 | 72 | 72 | 78 | 78 | 78 | 84 | 84 |
| Length of shell "A" ins. | 57 | 66 | 74 | 70 | 78 | 89 | 77 | 83 | 91 | 79 | 92 | 98 | 85 | 93 | 102 | 108 | 122 | 115 | 128 | 127 | 144 | 165 | 130 | 147 |
| Length overall "O-A" ft.-ins. | 6–5 | 7–2 | 7–10 | 7–10 | 8–6 | 9–5 | 8–8 | 9–2 | 9–10 | 8–10 | 9–11 | 10–5 | 9–5 | 10–1 | 10–10 | 11–6 | 12–8 | 12–5 | 13–6 | 13–5 | 14–10 | 16–7 | 13–8 | 15–1 |
| Width of fire-box and grate ins. | 30 | 30 | 30 | 36 | 36 | 36 | 42 | 42 | 42 | 48 | 48 | 48 | 54 | 54 | 54 | 60 | 60 | 66 | 66 | 72 | 72 | 72 | 78 | 78 |
| Length of fire-box ins. | 49½ | 58½ | 66½ | 62½ | 70½ | 81½ | 69½ | 75½ | 83½ | 71½ | 84½ | 90½ | 77½ | 85½ | 94½ | 100¼ | 114¼ | 107¼ | 120¼ | 119¼ | 136¼ | 157¼ | 122 | 139 |
| Height of fire-box ins. | 26 | 26 | 26 | 30 | 30 | 30 | 32 | 32 | 32 | 34 | 34 | 34 | 37 | 37 | 37 | 40 | 40 | 42 | 42 | 44 | 44 | 44 | 46 | 46 |
| Length of grates ins. | 44 | 50 | 56 | 50 | 56 | 62 | 62 | 68 | 68 | 62 | 68 | 74 | 68 | 74 | 74 | 68 | 74 | 74 | 80 | 74 | 80 | 86 | 86 | 92 |
| Depth of rear connection "N" ins. | 17½ | 17½ | 17½ | 18 | 18 | 18 | 18 | 18 | 18 | 18 | 18 | 18 | 18 | 18 | 18 | 18¾ | 18¾ | 18¾ | 18¾ | 18¾ | 18¾ | 18¾ | 18½ | 18½ |
| Furnace Volume cu.ft. | 31 | 35 | 39 | 52 | 57 | 63 | 68 | 74 | 78 | 84 | 97 | 104 | 108 | 118 | 128 | 152 | 171 | 186 | 207 | 223 | 252 | 288 | 268 | 300 |
| No. of 3½" direct tubes | 17 | 17 | 17 | 18 | 18 | 18 | 32 | 32 | 32 | 40 | 40 | 40 | 53 | 53 | 53 | 52 | 52 | 68 | 68 | 65 | 65 | 65 | 103 | 103 |
| Length of direct tubes ins. | 36½ | 45½ | 53½ | 49 | 57 | 68 | 56 | 62 | 70 | 58 | 71 | 77 | 64 | 72 | 81 | 86 | 100 | 93 | 106 | 105 | 122 | 143 | 108 | 125 |
| No. of 3½" return tubes | 16 | 16 | 16 | 26 | 26 | 26 | 32 | 32 | 32 | 34 | 34 | 34 | 50 | 50 | 50 | 56 | 56 | 62 | 62 | 80 | 80 | 80 | 104 | 104 |
| Length of return tubes ins. | 58 | 67 | 75 | 71 | 79 | 90 | 78 | 84 | 92 | 80 | 93 | 99 | 86 | 94 | 103 | 109 | 123 | 116 | 129 | 128 | 145 | 166 | 131 | 148 |
| Size of steam outlet ins. | 6 | 6 | 6 | 6 | 6 | 6 | 8 | 8 | 8 | 8 | 8 | 8 | 10 | 10 | 10 | 10 | 10 | 12 | 12 | 12 | 12 | 12 | 12 | 12 |
| Size of return outlet ins. | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 6 | 6 | 6 | 6 | 6 | 6 | 6 |
| Size of safety valves ins. | 2 | 2 | 2 | 2 | 2 | 2½ | 2½ | 3 | 3 | 3 | 3 | 3½ | 3½ | 3½ | 3½ | 2–2½ | 2–2½ | 2–2½ | 2–2½ | 2–2½ | 2–3 | 2–3 | 2–3 | 2–3½ |
| Sizes of blow-off ins. | 1½ | 1½ | 1½ | 1½ | 1½ | 1½ | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2½ | 2½ | 2½ | 2½ | 2½ | 2½ | 2½ | 2½ | 2½ |
| Weight of bare boiler lbs. | 4000 | 4300 | 4600 | 5400 | 5800 | 6200 | 6800 | 7200 | 7700 | 8700 | 9700 | 10300 | 11500 | 12300 | 13000 | 14200 | 15600 | 17300 | 19100 | 20100 | 22100 | 25500 | 27500 | 29800 |
| Weight of boiler complete lbs. | 4900 | 5300 | 5800 | 6700 | 7200 | 7700 | 8500 | 9100 | 9700 | 10700 | 11700 | 12400 | 13700 | 14800 | 15500 | 16800 | 18400 | 20250 | 22500 | 23650 | 25800 | 29550 | 31700 | 34150 |
| Height of water line "G" ins. | 68 | 68 | 68 | 70½ | 70½ | 70½ | 81 | 81 | 81 | 85 | 85 | 85 | 94 | 94 | 94 | 93½ | 93½ | 98½ | 98½ | 100 | 100 | 100 | 114 | 114 |
| Height overall "B" ins. | 79½ | 79½ | 79½ | 84 | 84 | 84 | 98 | 98 | 98 | 101 | 101 | 101 | 111½ | 111½ | 111½ | 113¼ | 113¼ | 118½ | 118½ | 124½ | 124½ | 124½ | 136⅝ | 136⅝ |
| Dia. rear smoke outlet "C" ins. | 22 | 22 | 22 | 24 | 24 | 24 | 26 | 26 | 26 | 28 | 28 | 28 | 32 | 32 | 32 | 34 | 34 | 36 | 36 | 40 | 40 | 40 | 42 | 42 |
| Size of top smoke outlet "C¹xC²" ins. | 10x36 | 10x36 | 10x36 | 12x40 | 12x40 | 12x40 | 13x44 | 13x44 | 13x44 | 13x50 | 13x50 | 13x50 | 14x60 | 14x60 | 14x60 | 16x60 | 16x60 | 18x61 | 18x61 | 18x74 | 18x74 | 18x74 | 18x81 | 18x81 |
| Width of base "E" ins. | 37¼ | 37¼ | 37¼ | 43¼ | 43¼ | 43¼ | 49¼ | 49¼ | 49¼ | 55¼ | 55¼ | 55¼ | 61¼ | 61¼ | 61¼ | 67½ | 67½ | 73½ | 73½ | 79½ | 79½ | 79½ | 85¾ | 85¾ |
| Length of base "F" ins. | 57 | 66 | 74 | 70 | 78 | 89 | 77 | 83 | 91 | 79 | 92 | 98 | 85 | 93 | 102 | 108 | 122 | 115 | 128 | 127 | 144 | 165 | 130 | 147 |
| Length front smoke box "U" ins. | 8 | 8 | 8 | 10 | 10 | 10 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 14 | 14 | 14 | 14 | 14 | 14 | 14 |
| Length rear smoke box "H" ins. | 12 | 12 | 12 | 14 | 14 | 14 | 15 | 15 | 15 | 15 | 15 | 15 | 16 | 16 | 16 | 18 | 18 | 20 | 20 | 20 | 20 | 20 | 20 | 20 |
| Height rear smoke outlet "J" ins. | 64 | 64 | 64 | 67 | 67 | 67 | 79 | 79 | 79 | 82 | 82 | 82 | 91 | 91 | 91 | 90¾ | 90¾ | 94½ | 94½ | 98½ | 98½ | 98½ | 109¾ | 109¾ |
| Length of foundation "K" ins. | 65 | 74 | 82 | 78 | 86 | 97 | 85 | 91 | 99 | 87 | 100 | 106 | 93 | 101 | 110 | 116 | 130 | 123 | 136 | 135 | 152 | 173 | 138 | 155 |
| Location of steam outlet "R" ins. | 15 | 15 | 15 | 15 | 15 | 15 | 18 | 18 | 18 | 18 | 18 | 18 | 21 | 21 | 21 | 21 | 21 | 24 | 24 | 24 | 24 | 24 | 24 | 24 |
| Location return outlet "T" ins. | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 |
| Height of ash pit base "V" ins. | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 |
| Width of furnace "W" ins. | 30 | 30 | 30 | 36 | 36 | 36 | 42 | 42 | 42 | 48 | 48 | 48 | 54 | 54 | 54 | 60 | 60 | 66 | 66 | 72 | 72 | 72 | 78 | 78 |
| Length of ash pit "Y" ins. | 42 | 48 | 54 | 48 | 54 | 60 | 60 | 66 | 66 | 60 | 66 | 72 | 66 | 72 | 72 | 66 | 72 | 72 | 78 | 72 | 78 | 84 | 84 | 90 |
| Dia. breeching—1 boiler ins. | 22 | 22 | 22 | 24 | 24 | 24 | 26 | 26 | 26 | 28 | 28 | 28 | 32 | 32 | 32 | 34 | 34 | 36 | 36 | 40 | 40 | 40 | 42 | 42 |
| Dia. stack—1 boiler ins. | 20 | 20 | 20 | 22 | 22 | 22 | 24 | 24 | 24 | 26 | 26 | 26 | 30 | 30 | 30 | 32 | 32 | 34 | 34 | 38 | 38 | 38 | 40 | 40 |
| Minimum height of stack ft. | 50 | 50 | 50 | 55 | 55 | 55 | 60 | 60 | 60 | 65 | 65 | 65 | 70 | 70 | 70 | 70 | 70 | 80 | 90 | 90 | 90 | 90 | 100 | 100 |
| Dia. breeching—2 boilers ins. | 30 | 30 | 30 | 34 | 34 | 34 | 38 | 38 | 38 | 40 | 40 | 40 | 46 | 46 | 46 | 50 | 50 | 52 | 52 | 56 | 56 | 56 | 58 | 58 |
| Dia. stack—2 boilers ins. | 28 | 28 | 28 | 31 | 31 | 31 | 34 | 34 | 34 | 36 | 36 | 36 | 42 | 42 | 42 | 46 | 46 | 48 | 48 | 54 | 54 | 54 | 56 | 56 |
| Min. height stack—2 boilers ft. | 60 | 60 | 60 | 65 | 65 | 65 | 70 | 70 | 70 | 75 | 75 | 75 | 80 | 80 | 80 | 80 | 80 | 90 | 100 | 100 | 100 | 100 | 110 | 110 |
| Asbestos covering required sq.ft. | 69 | 80 | 85 | 93 | 100 | 110 | 116 | 124 | 135 | 140 | 153 | 163 | 170 | 185 | 192 | 200 | 225 | 230 | 250 | 265 | 292 | 310 | 325 | 340 |
| Size of fire door | 12"x16" | | | 16"x22" | | | | | | | | | 18"x30" | | | | | | | | | | | |

TITUSVILLE SERIES "S.R.B."—COMPACT TYPE WELDED FIRE BOX BOILERS—UP-DRAFT FOR BITUMINOUS COAL

MEMBER STEEL HEATING BOILER INSTITUTE—CODE RATINGS GIVEN

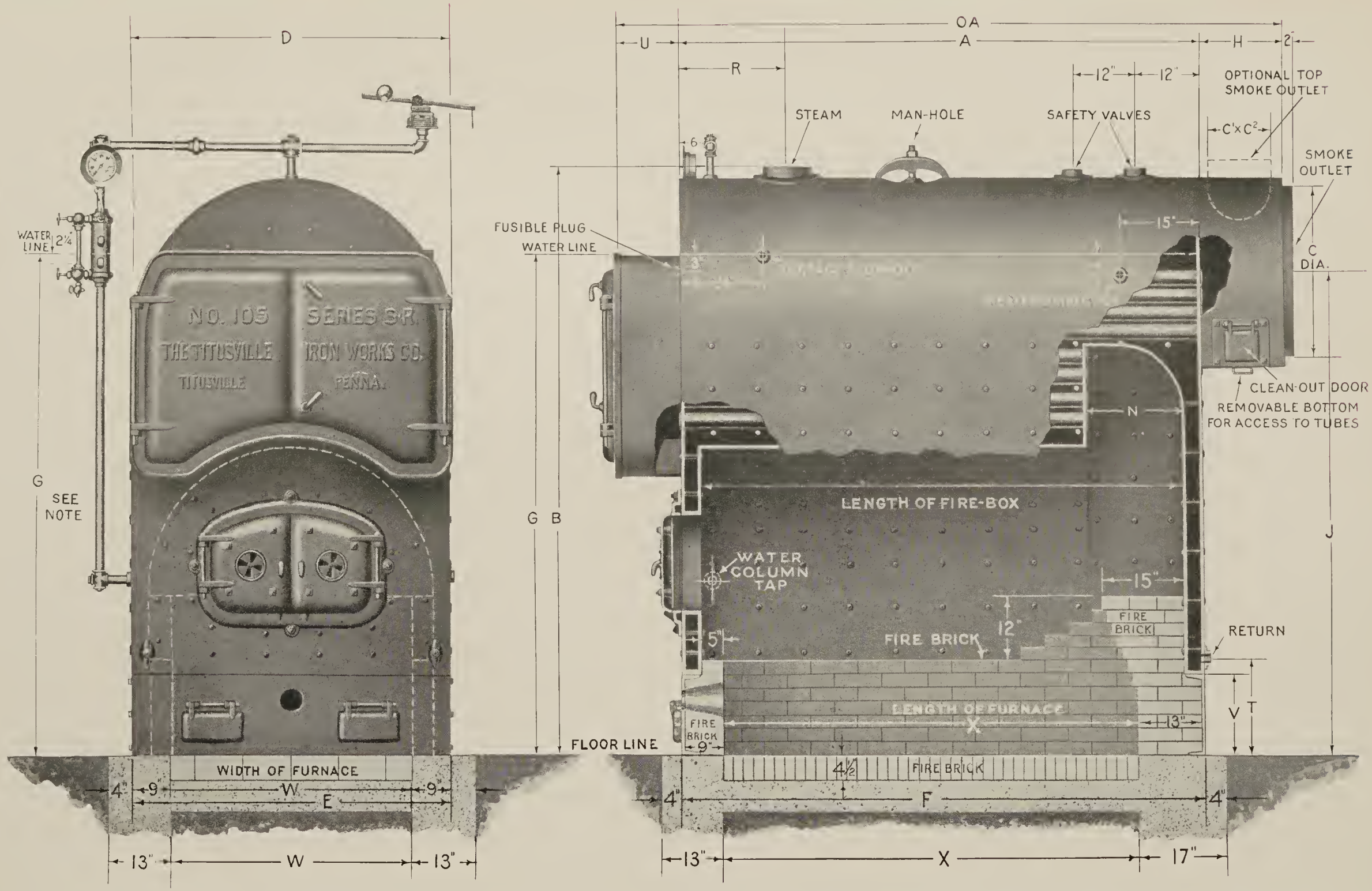



Fig. 6092

Standard Equipment consists of: All usual castings shown on Fig. 6092, All Metal Ash Pit Base and Damper in top smoke collar. when furnished.

Standard Steam Trimmings consist of: Plain Water Column, Water Glass, Two Gauge Cocks, Low Pressure Steam Gauge and Syphon, and Pop Safety Valves, set to blow at 15 lbs. When more than one safety valve is necessary, a Y connection or separate Flanges are furnished.

Five-inch diameter Steam Gauge furnished with Boilers up to and including 54″ diameter. 8½″ diameter Steam Gauge furnished with Boilers 60″ diameter and up. No water column piping furnished. Flue Brush furnished with all Boilers.

Special Equipment: Cast Iron ash pit front, special trimmings can be furnished at additional cost.

All Tubes are 3″ diameter. All Boilers 54″ diameter and larger have Manhole in Shell.

See Form 6073 for Anthracite Coal Burning.

See Form 6083 for Bituminous Coal Burning Boilers.

The Height of water line "G" is the distance from the finished floor to the line on water column.

Firebrick lining not furnished with boiler.

See Page 18 for Foundation Plan.

TITUSVILLE SERIES "S. R. O."—COMPACT TYPE WELDED FIRE-BOX BOILERS—UP-DRAFT FOR BURNING OIL AND GAS

# TITUSVILLE SERIES "S. R. O." COMPACT TYPE WELDED BOILERS

## A. S. M. E. CODE

| No. of boiler "S. R. O." | 33-O | 39-O | 44-O | 51-O | 56-O | 66-O | 72-O | 79-O | 86-O | 93-O | 109-O | 117-O | 134-O | 147-O | 162-O | 176-O | 199-O | 227-O | 253-O | 273-O | 311-O | 357-O | 402-O | 456-O |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Code | Sora | Sorb | Sord | Sorf | Sorg | Sork | Sorl | Sorm | Sorn | Soro | Sorp | Sors | Sort | Sorv | Sorab | Sorac | Sorad | Soraf | Sorag | Sorah | Sorak | Soral | Soram | Sorap |
| Capacity direct radiation, steam....sq.ft. | 3300 | 3910 | 4420 | 5100 | 5680 | 6610 | 7220 | 7900 | 8680 | 9350 | 10930 | 11780 | 13410 | 14700 | 16200 | 17610 | 19940 | 22710 | 25380 | 27330 | 31110 | 35700 | 40200 | 45660 |
| Capacity direct radiation, water....sq.ft. | 5280 | 6250 | 7070 | 8160 | 9080 | 10570 | 11550 | 12640 | 13880 | 14960 | 17480 | 18840 | 21450 | 23520 | 25920 | 28170 | 31900 | 36330 | 40600 | 43720 | 49770 | 57120 | 64320 | 73050 |
| Heating surface.....sq.ft. | 194 | 230 | 260 | 300 | 334 | 389 | 425 | 465 | 511 | 550 | 643 | 693 | 789 | 865 | 953 | 1036 | 1173 | 1336 | 1493 | 1608 | 1830 | 2100 | 2365 | 2686 |
| Width of boiler....."D".....ins. | 36 | 36 | 36 | 42 | 42 | 42 | 48 | 48 | 48 | 54 | 54 | 54 | 60 | 60 | 60 | 66 | 66 | 72 | 72 | 78 | 78 | 78 | 84 | 84 |
| Length of shell....."A".....ins. | 57 | 66 | 74 | 70 | 78 | 89 | 77 | 83 | 91 | 79 | 92 | 98 | 85 | 93 | 102 | 108 | 122 | 115 | 128 | 127 | 144 | 165 | 130 | 147 |
| Length overall....."O-A".....ft.-ins. | 6–5 | 7–2 | 7–10 | 7–10 | 8–6 | 9–5 | 8–8 | 9–2 | 9–10 | 8–10 | 9–11 | 10–5 | 9–5 | 10–1 | 10–10 | 11–6 | 12–8 | 12–5 | 13–6 | 13–5 | 14–10 | 16–7 | 13–8 | 15–1 |
| Width of fire-box.....ins. | 30 | 30 | 30 | 36 | 36 | 36 | 42 | 42 | 42 | 48 | 48 | 48 | 54 | 54 | 54 | 60 | 60 | 66 | 66 | 72 | 72 | 72 | 78 | 78 |
| Length of fire-box.....ins. | 49½ | 58½ | 66½ | 62½ | 70½ | 81½ | 69½ | 75½ | 83½ | 71½ | 84½ | 90½ | 77½ | 85½ | 94½ | 100¼ | 114¼ | 107¼ | 120¼ | 119¼ | 136¼ | 157¼ | 122 | 139 |
| Height of fire-box.....ins. | 26 | 26 | 26 | 30 | 30 | 30 | 32 | 32 | 32 | 34 | 34 | 34 | 37 | 37 | 37 | 40 | 40 | 42 | 42 | 44 | 44 | 44 | 46 | 46 |
| Depth of rear connection.."N".....ins. | 17½ | 17½ | 17½ | 18 | 18 | 18 | 18 | 18 | 18 | 18 | 18 | 18 | 18 | 18 | 18 | 18¾ | 18¾ | 18¾ | 18¾ | 18¾ | 18¾ | 18¾ | 18½ | 18½ |
| Furnace Volume.....cu.ft. | 25 | 30 | 34 | 53 | 56 | 63 | 68 | 75 | 77 | 85 | 98 | 105 | 107 | 118 | 131 | 165 | 187 | 203 | 228 | 252 | 287 | 332 | 295 | 335 |
| No. of 3" direct tubes..... | 28 | 28 | 28 | 31 | 31 | 31 | 42 | 42 | 42 | 52 | 52 | 52 | 68 | 68 | 68 | 69 | 69 | 87 | 87 | 94 | 94 | 94 | 139 | 139 |
| Length of direct tubes.....ins. | 36½ | 45½ | 53½ | 49 | 57 | 68 | 56 | 62 | 70 | 58 | 71 | 77 | 64 | 72 | 81 | 86 | 100 | 93 | 106 | 105 | 122 | 143 | 108 | 125 |
| No. of 3" return tubes..... | 26 | 26 | 26 | 31 | 31 | 31 | 44 | 44 | 44 | 54 | 54 | 54 | 72 | 72 | 72 | 72 | 72 | 86 | 86 | 90 | 90 | 90 | 139 | 139 |
| Length of return tubes.....ins. | 58 | 67 | 75 | 71 | 79 | 90 | 78 | 84 | 92 | 80 | 93 | 99 | 86 | 94 | 103 | 109 | 123 | 116 | 129 | 128 | 145 | 166 | 131 | 148 |
| Size of steam outlet.....ins. | 6 | 6 | 6 | 6 | 6 | 6 | 8 | 8 | 8 | 8 | 8 | 8 | 10 | 10 | 10 | 10 | 10 | 12 | 12 | 12 | 12 | 12 | 12 | 12 |
| Size of return outlet.....ins. | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 6 | 6 | 6 | 6 | 6 | 6 | 6 |
| Size of safety-valves.....ins. | 2 | 2 | 2 | 2 | 2 | 2½ | 2½ | 3 | 3 | 3 | 3 | 3½ | 3½ | 3½ | 3½ | 2–2½ | 2–2½ | 2–2½ | 2–2½ | 2–2½ | 2–3 | 2–3 | 2–3 | 2–3½ |
| Sizes of blow-off.....ins. | 1½ | 1½ | 1½ | 1½ | 1½ | 1½ | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2½ | 2½ | 2½ | 2½ | 2½ | 2½ | 2½ | 2½ | 2½ |
| Weight of bare boiler.....lbs. | 4000 | 4300 | 4600 | 5400 | 5800 | 6200 | 6800 | 7200 | 7700 | 8700 | 9700 | 10300 | 11500 | 12300 | 13000 | 14200 | 15600 | 17300 | 19100 | 20100 | 22100 | 25500 | 27500 | 29800 |
| Weight of boiler complete.....lbs. | 4400 | 4725 | 5050 | 5875 | 6300 | 6725 | 7350 | 7800 | 8350 | 9375 | 10400 | 11025 | 12250 | 13100 | 13800 | 15050 | 16500 | 18250 | 20100 | 21150 | 23200 | 26650 | 28700 | 31050 |
| Height of water line....."G".....ins. | 68 | 68 | 68 | 70½ | 70½ | 70½ | 81 | 81 | 81 | 85 | 85 | 85 | 94 | 94 | 94 | 93½ | 93½ | 98½ | 98½ | 100 | 100 | 100 | 114 | 114 |
| Height over all....."B".....ins. | 79½ | 79½ | 79½ | 84 | 84 | 84 | 98 | 98 | 98 | 101 | 101 | 101 | 111½ | 111½ | 111½ | 113¼ | 113¼ | 118½ | 118½ | 124½ | 124½ | 124½ | 136⅝ | 136⅝ |
| Dia. rear smoke outlet..."C".....ins. | 22 | 22 | 22 | 24 | 24 | 24 | 26 | 26 | 26 | 28 | 28 | 28 | 32 | 32 | 32 | 34 | 34 | 36 | 36 | 40 | 40 | 40 | 42 | 42 |
| Size of top smoke outlet "$C^1$x$C^2$".....ins. | 10x36 | 10x36 | 10x36 | 12x40 | 12x40 | 12x40 | 13x44 | 13x44 | 13x44 | 13x50 | 13x50 | 13x50 | 14x60 | 14x60 | 14x60 | 16x60 | 16x60 | 18x61 | 18x61 | 18x74 | 18x74 | 18x74 | 18x81 | 18x81 |
| Width of base....."E".....ins. | 37¼ | 37¼ | 37¼ | 43¼ | 43¼ | 43¼ | 49¼ | 49¼ | 49¼ | 55¼ | 55¼ | 55¼ | 61¼ | 61¼ | 61¼ | 67½ | 67½ | 73½ | 73½ | 79½ | 79½ | 79½ | 85¾ | 85¾ |
| Length of base....."F".....ins. | 57 | 66 | 74 | 70 | 78 | 89 | 77 | 83 | 91 | 79 | 92 | 98 | 85 | 93 | 102 | 108 | 122 | 115 | 128 | 127 | 144 | 165 | 130 | 147 |
| Length front smoke box.."U".....ins. | 8 | 8 | 8 | 10 | 10 | 10 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 14 | 14 | 14 | 14 | 14 | 14 | 14 |
| Length rear smoke box..."H".....ins. | 12 | 12 | 12 | 14 | 14 | 14 | 15 | 15 | 15 | 15 | 15 | 15 | 16 | 16 | 16 | 18 | 18 | 20 | 20 | 20 | 20 | 20 | 20 | 20 |
| Height rear smoke outlet."J".....ins. | 64 | 64 | 64 | 67 | 67 | 67 | 79 | 79 | 79 | 82 | 82 | 82 | 91 | 91 | 91 | 90¾ | 90¾ | 94½ | 94½ | 98½ | 98½ | 98½ | 109⅝ | 109⅝ |
| Length of foundation...."K".....ins. | 65 | 74 | 82 | 78 | 86 | 97 | 85 | 91 | 99 | 87 | 100 | 106 | 93 | 101 | 110 | 116 | 130 | 123 | 136 | 135 | 152 | 173 | 138 | 155 |
| Location of steam outlet."R".....ins. | 15 | 15 | 15 | 15 | 15 | 15 | 18 | 18 | 18 | 18 | 18 | 18 | 21 | 21 | 21 | 21 | 21 | 24 | 24 | 24 | 24 | 24 | 24 | 24 |
| Location return outlet..."T".....ins. | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 |
| Height of ash pit base..."V".....ins. | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 |
| Width of furnace....."W".....ins. | 20 | 20 | 20 | 26 | 26 | 26 | 32 | 32 | 32 | 38 | 38 | 38 | 44 | 44 | 44 | 50 | 50 | 56 | 56 | 62 | 62 | 62 | 68 | 68 |
| Length of furnace....."X".....ins. | 35 | 44 | 52 | 48 | 56 | 67 | 55 | 61 | 69 | 57 | 70 | 76 | 63 | 71 | 80 | 86 | 100 | 93 | 106 | 105 | 122 | 143 | 108 | 125 |
| Dia. breeching—1 boiler.....ins. | 22 | 22 | 22 | 24 | 24 | 24 | 26 | 26 | 26 | 28 | 28 | 28 | 32 | 32 | 32 | 34 | 34 | 36 | 36 | 40 | 40 | 40 | 42 | 42 |
| Dia. stack—1 boiler.....ins. | 20 | 20 | 20 | 22 | 22 | 22 | 24 | 24 | 24 | 26 | 26 | 26 | 30 | 30 | 30 | 32 | 32 | 34 | 34 | 38 | 38 | 38 | 40 | 40 |
| Minimum height of stack.....ft. | 50 | 50 | 50 | 55 | 55 | 55 | 60 | 60 | 60 | 65 | 65 | 65 | 70 | 70 | 70 | 70 | 70 | 80 | 90 | 90 | 90 | 90 | 100 | 100 |
| Dia. breeching—2 boilers.....ins. | 30 | 30 | 30 | 34 | 34 | 34 | 38 | 38 | 38 | 40 | 40 | 40 | 46 | 46 | 46 | 50 | 50 | 52 | 52 | 56 | 56 | 56 | 58 | 58 |
| Dia. stack—2 boilers.....ins. | 28 | 28 | 28 | 31 | 31 | 31 | 34 | 34 | 34 | 36 | 36 | 36 | 42 | 42 | 42 | 46 | 46 | 48 | 48 | 54 | 54 | 54 | 56 | 56 |
| Min. height stack—2 boilers.....ft. | 60 | 60 | 60 | 65 | 65 | 65 | 70 | 70 | 70 | 75 | 75 | 75 | 80 | 80 | 80 | 80 | 80 | 90 | 100 | 100 | 100 | 100 | 110 | 110 |
| Asbestos covering required.....sq.ft. | 69 | 80 | 85 | 93 | 100 | 110 | 116 | 124 | 135 | 140 | 153 | 163 | 170 | 185 | 192 | 200 | 225 | 230 | 250 | 265 | 292 | 310 | 325 | 340 |
| Size of fire door..... | 12"x16" | | | 16"x22" | | | | | | | | | 18"x30" | | | | | | | | | | | |

TITUSVILLE SERIES "S. R. O."—COMPACT TYPE WELDED FIRE-BOX—UP-DRAFT FOR BURNING OIL AND GAS

MEMBER STEEL HEATING BOILER INSTITUTE—CODE RATINGS GIVEN



Issue 1932

Form 6093

# FOUNDATION PLANS

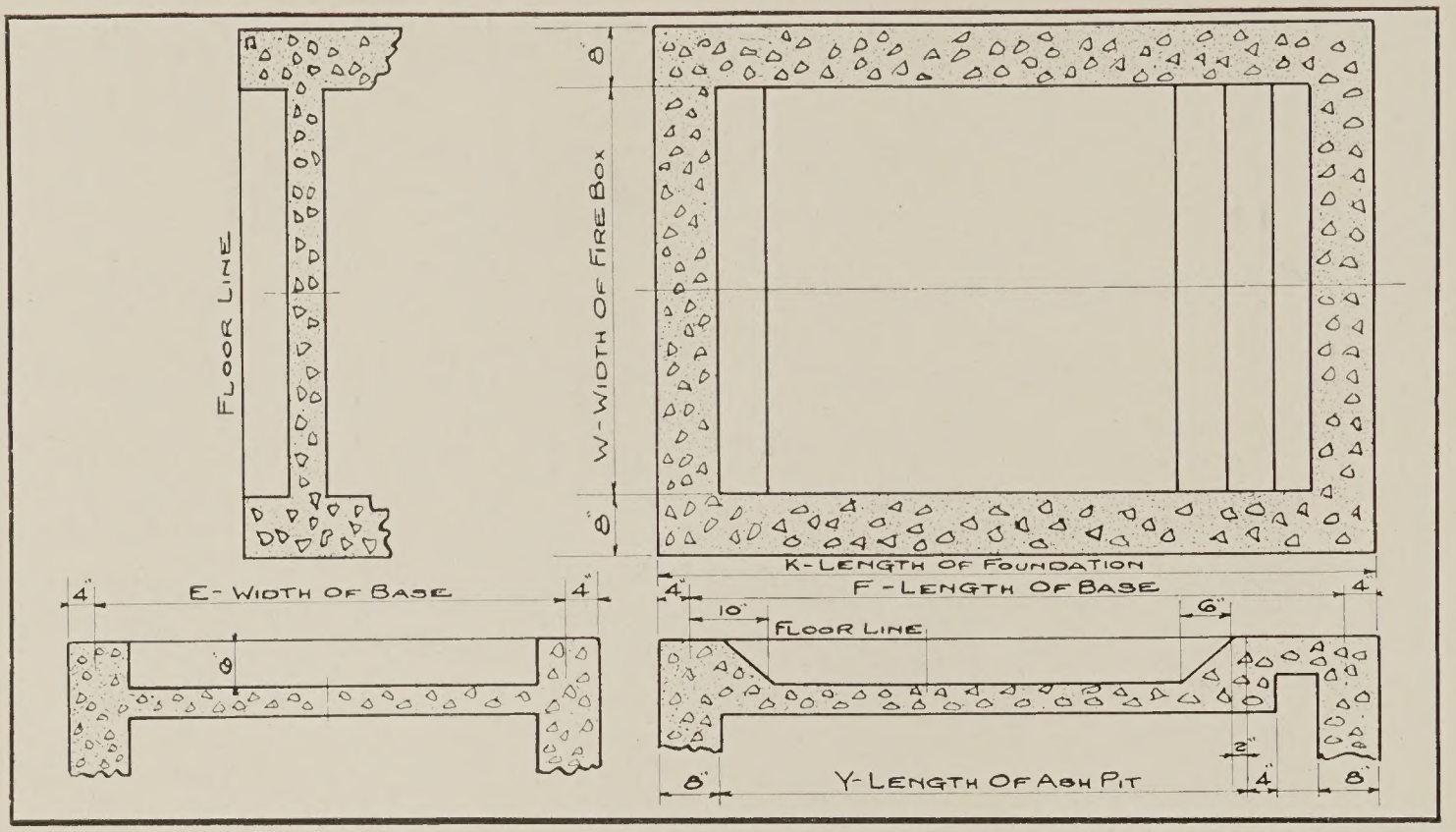



FIG. 6074

CONCRETE FOUNDATION PLAN FOR "S.R.A." AND "S.R.B." COAL-FIRED BOILERS

See Pages 13 and 15 for Dimensions

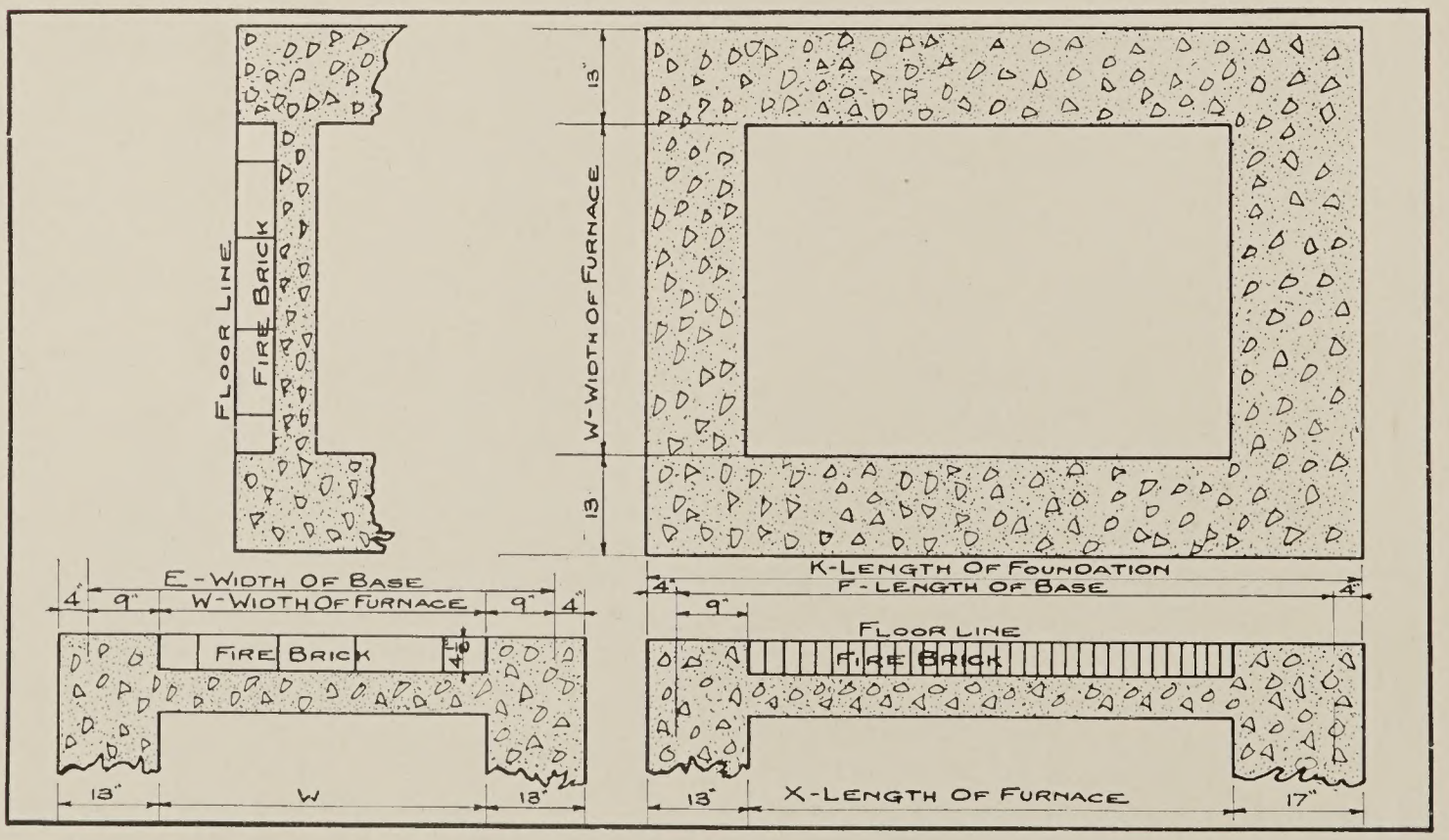
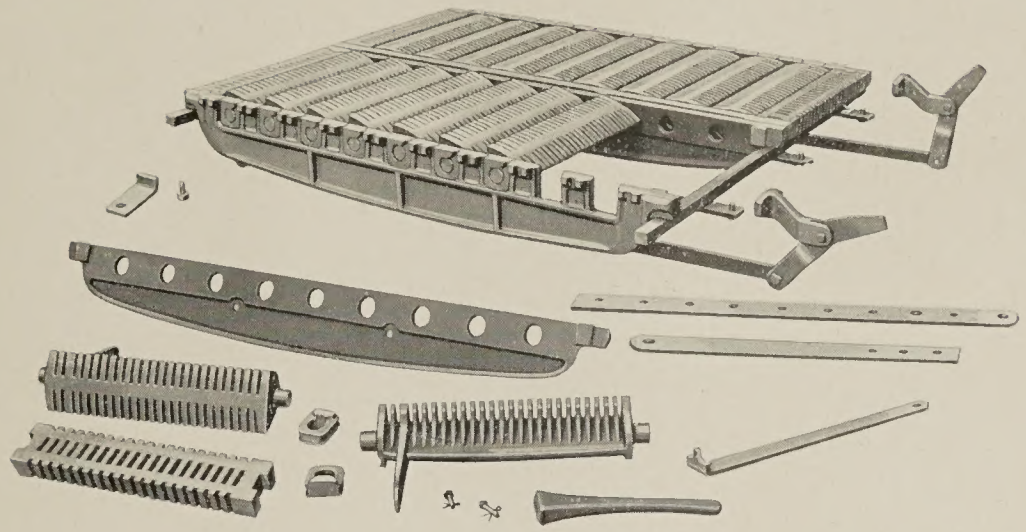



FIG. 6094

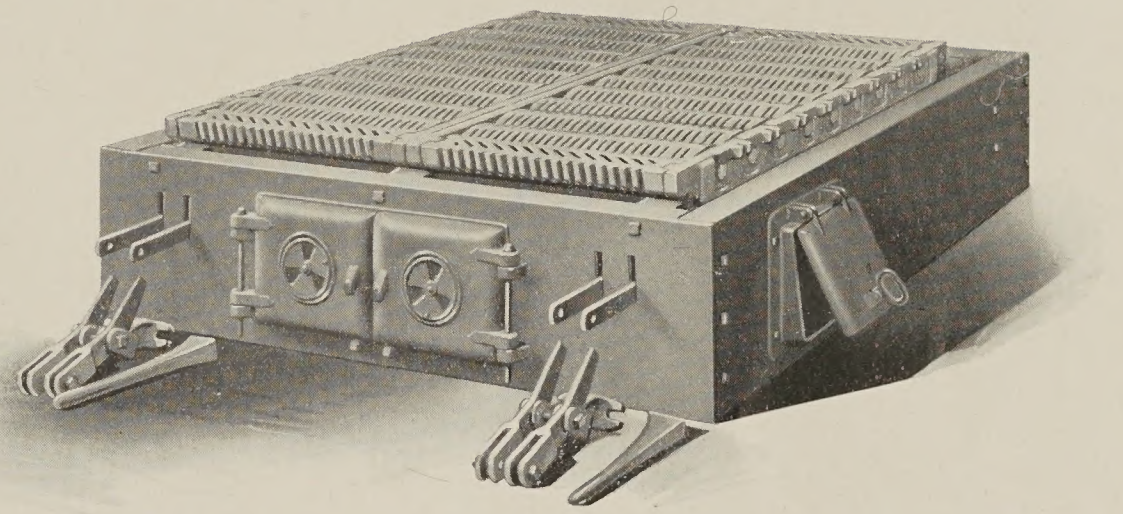
CONCRETE FOUNDATION PLAN FOR "S. R. O." OIL-BURNING BOILERS

See Page 17 for Dimensions

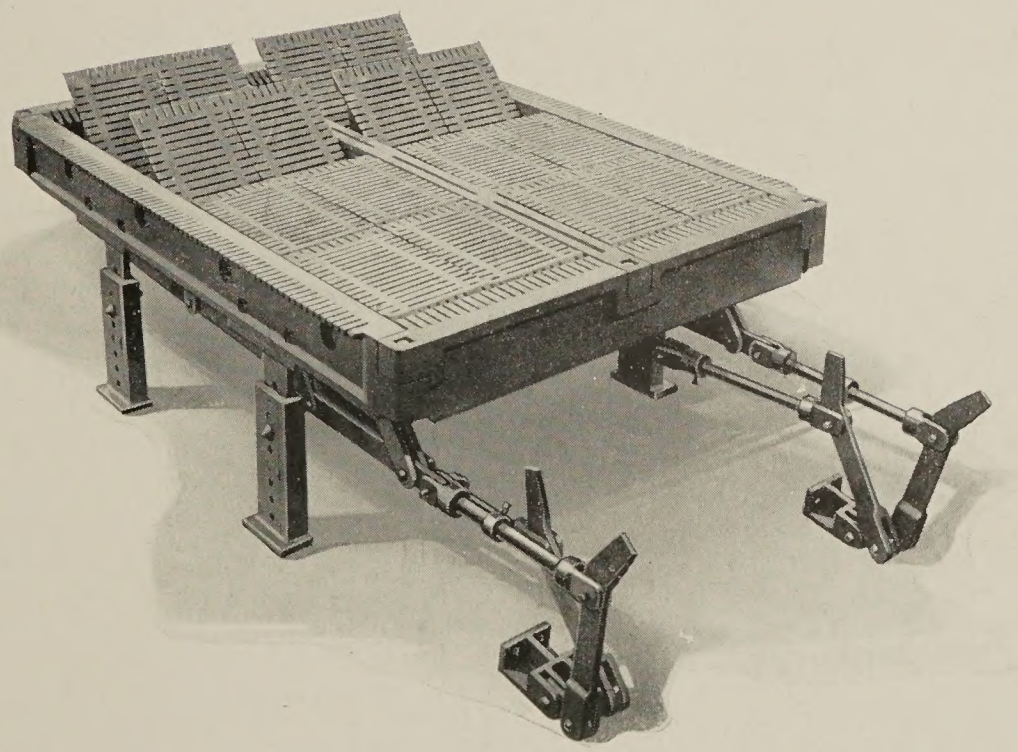
# TITUSVILLE GRATES



ACME SHAKING GRATE

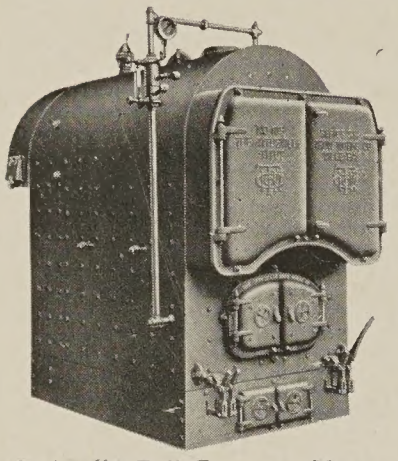


STEEL BASE

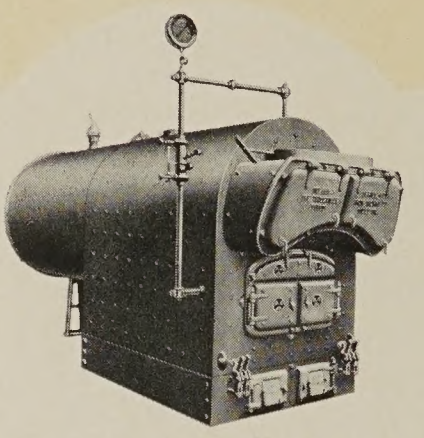


ACME DUMPING GRATE

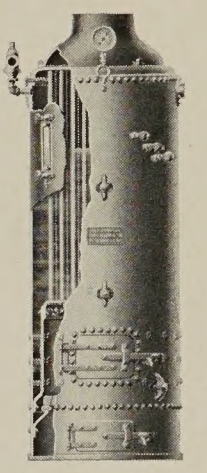
# A TYPE, STYLE AND CAPACITY TO MEET EVERY REQUIREMENT OF INDUSTRY



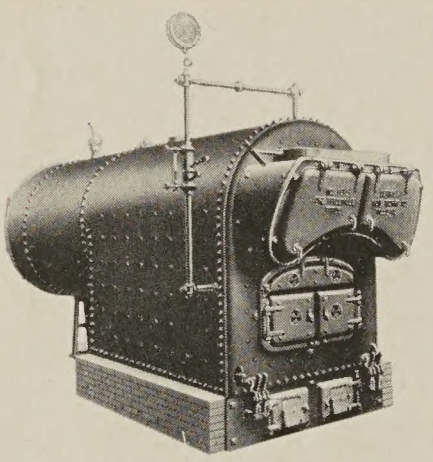
Series "S. R." Compact Type
Welded Heating Boiler



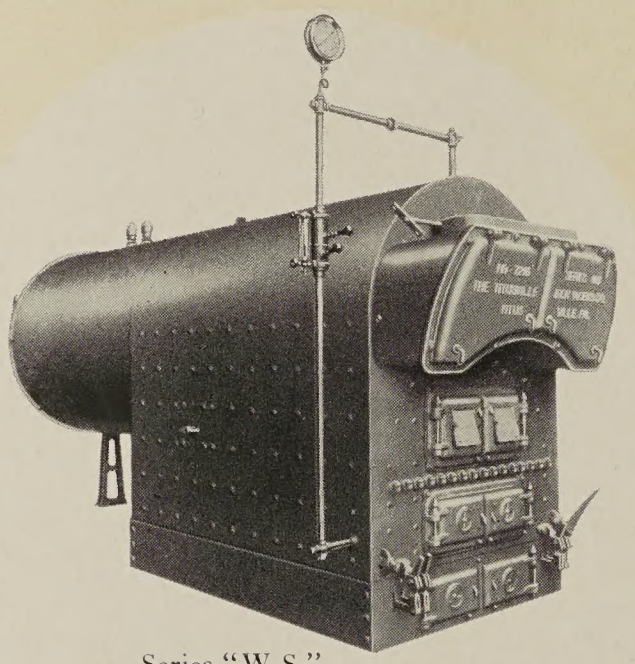
Series "W" Welded Fire-Box Boiler



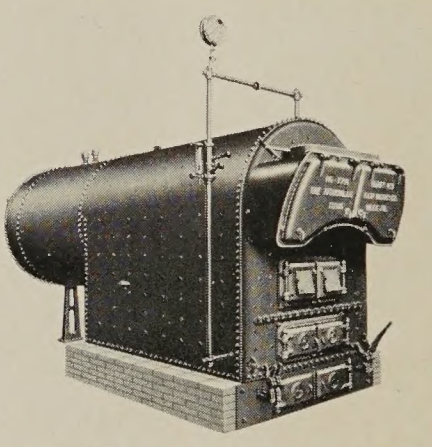
Titusville Vertical Boiler



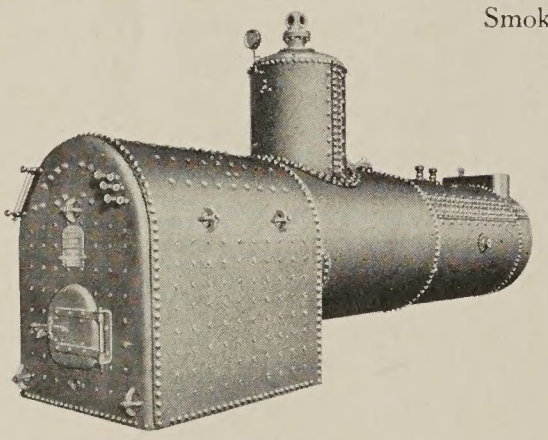
Series "R" Riveted
Fire-Box Boiler



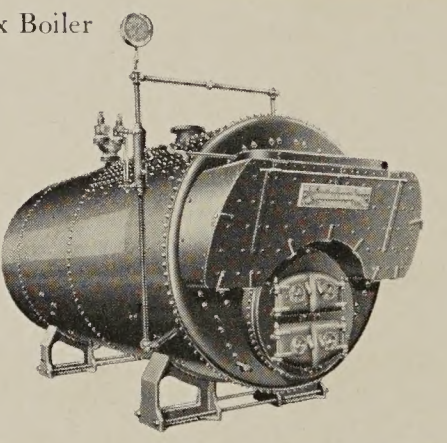
Series "W.S."
Smokeless Welded Fire-Box Boiler



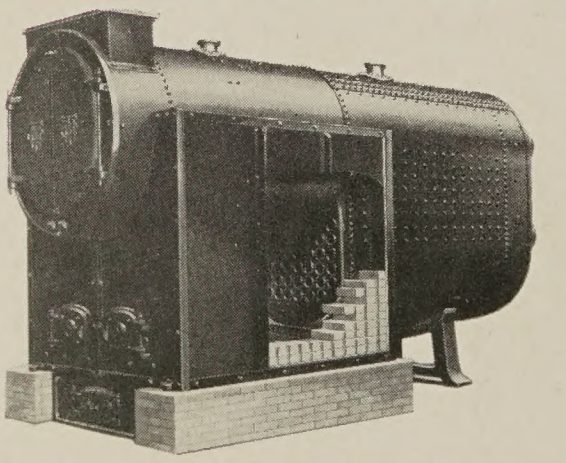
Series "R.S." Smokeless Riveted
Fire-Box Boiler



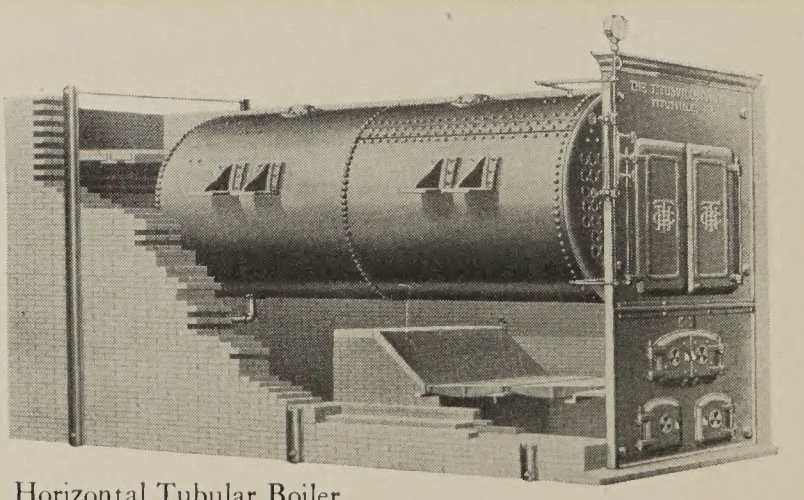
Locomotive Type Boiler



Series "S.C." Riveted Scotch Boiler



Perfection Boiler



Horizontal Tubular Boiler



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